The Mining Journal
AND ATMOSPHERIC RAILWAY GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 579.—Vol. XVI.] LONDON: SATURDAY, SEPTEMBER 26, 1846. [Price 6d.

LIFFORD CHEMICAL WORKS AND FREEHOLD ESTATE, situate at King's Norton, near Birmingham, bounded by the Birmingham and Worcester Canal, and intersected by the Birmingham and Bristol Railway.—TO BE SOLD, BY AUCTION, by E. and C. ROBINS & CO., on Thursday, the 15th day of October next, at Four o'clock in the afternoon, at Dee's Royal Hotel, in Birmingham, subject to conditions then and there to be produced (unless in the meantime an acceptable offer be made by private contract, of which the earliest possible notice will be given),

LOT I.—The above-mentioned well situated, extensive, and complete WORKS, adapted, at great cost, for the manufacture of Sulphuric Acid, Alkali, Aquafortis, Roman Vitriol, and other chemicals—established many years ago by the late Mr. Dobbs, and since continued, and most extensively enlarged and rearranged, by his successors.

The situation was selected as an eligible one, on account of its command of land and water carriage to and from all parts, both for the supply of materials to the works and the dispatch of the articles manufactured. The site, comprising about six acres, is bounded by the Birmingham and Worcester Canal, to which it has about 16 boat-lengths of wharfage, by the Bristol and Birmingham Railroad (close to the King's Norton Station on that line), and by the high road from Birmingham to King's Norton—against the whole length of which is a lofty brick wall, and from which are approaches by gateway entrances.

The establishment is of a most complete and extensive character, consisting of various lead-houses, laboratories, retort-houses, condensers, receivers, furnaces, vats, kilns, chimney-stacks, upwards of 300 feet high, and the various other buildings and arrangements necessary in storing, compounding, and manufacturing; together with the steam-engine, warehouses, dwelling-house, counting-house, workshops, &c.

The land not occupied by the works has under it a valuable mine of brick earth, and there are suitable arrangements of kilns and sheds for the manufacture of the same, and considerable portions of the land may be appropriated to general building and wharf purposes.—The above property, although especially adapted as chemical works, is, from a variety of circumstances, well suited for many other large manufacturing establishments, such as glass, foundry purposes, and a general railway carriage and fitting manufactory.

LOT II.—A piece of OLD TURF LAND, about three acres, adjoining Lot 1, except by the intersection of the railway, but communicating with it by an archway, bounded by the Worcester and Birmingham Canal (to the extent of about eight boat-lengths), and by the road from Lifford to Birmingham, extending from the railway to Breedon, Cross-bridge, and suitable for the erection of large works, and for general building purposes.

The whole is freehold, and early possession may be had.

The works and property may be viewed only by a card from the auctioneers. 1

For any other information apply to Messrs. Bridges, Mason, and Bridges, solicitors, Red Lion-square, London; or to the auctioneers, New-street, Birmingham.

FOR SALE—EXTENSIVE AND VALUABLE IRON-WORKS (in close vicinity of the harbour of Aberdeen).—There will be exposed FOR SALE, BY PUBLIC ROUP, within the Lemon Tree Tavern, ABERDEEN, on Wednesday, the 4th day of November next, at Two o'clock afternoon, those extensive and valuable premises, at Footdee, Aberdeen (bounded on the west by the harbour), known as

THE DEE IRON-WORKS, 2

and long EMPLOYED in the ENGINEERING and MILLWRIGHT BUSINESS, and in IRONFOUNDING, BOILER-MAKING, IRON SHIPBUILDING, BLACKSMITH WORK, BRASS FOUNDING, &c.

These works are very compact, and much more advantageously situated than many other works of the same description, for iron shipbuilding and engineering business—having a WATER FRONTAGE to the harbour, and in close connection with the other parts of the establishment—and the whole lying so contiguous, that all the branches of the business can be carried on under the same superintendence.

In the BUILDING-YARD several iron vessels may be proceeding at one and the same time, of from 200 to 2000 tons burthen; and the tools and machinery in this department are believed to be equal to any in the kingdom; there are other accommodations for carrying on this branch of business in its fullest perfection.

In the ENGINEERING DEPARTMENT, the tools and machinery are of the most improved description, and capable of constructing engines or machinery equal in magnitude to any known at the present day; and are sufficient to employ, constantly, from 100 to 150 men. In connection with this department, the building and fitting of locomotives may be carried on to the greatest extent.

The IRON FOUNDING DEPARTMENT is fitted up in the most complete manner, and capable of turning out both heavy and light castings, and of fully employing 60 men.

In the BOILER MAKING DEPARTMENT, which is separate from the iron shipbuilding premises, there is a complete set of tools and machinery, of the best description, capable of employing 150 men.

In the BLACKSMITH Shop there are 12 forges, all blown by fan-blast, with cranes attached to the principal ones, and each forge having a complete assortment of tools, for engineering, millwright, and shipbuilding purposes.

The MILLWRIGHT and PATTERN MAKERS' DEPARTMENT has a full assortment of all kinds of joiner and millwright's tools and fixtures, for the employment of 25 men, with a large stock of the most modern and useful patterns, which will be given over with the works.

There are also the necessary machinery and tools for carrying on the BRASS FOUNDING and FINISHING BUSINESS, and PLUMBER and COPPERSMITH WORK, to a large extent.

The whole establishment, if fully employed, is capable of turning out work to the amount of £60,000 or £70,000 a-year; and having been for several years, and still being, in full operation, the purchaser will have the advantage of commencing business immediately.

The greatest facilities of communication are afforded, by regular trading steam and other vessels, from Aberdeen to London, Hull, Newcastle, and Leith, in the south; and Inverness, Wick, Orkney, and Shetland, in the north.

The extensive improvements on the harbour, now going on, and the projected railway schemes in connection with Aberdeen, afford every prospect of full employment for a work of this description for a long period to come.

If the purchaser were desirous of removing the plant elsewhere, the buildings are so constructed as to be convertable into other manufacturing purposes, at little expense, as there are three fixed steam-engines on the premises.

For further particulars apply to John Hunter, Esq., W.S., 13, Hill-street, Edinburgh; W. Robinson, Esq., advocate, 58, Castle-street, Aberdeen; or to Mr. Vernon, at the works, who will show the premises, and on application, forward a plan of the buildings, and inventory of the machinery, tools, &c.—Aberdeen, September 8, 1846.

TWO LARGE PUMPING-ENGINES.—TO BE SOLD, BY PRIVATE CONTRACT, at GODOLPHIN MINES, HELSTON, Cornwall, TWO 90-inch PUMPING-ENGINES, 10-feet stroke in the cylinder and 8-feet in the shaft, with THREE TUBULAR BOILERS, of about 35 tons—a balance-bob and top-piece of rod to each.—These excellent engines were erected by one of the first engineers in the county; the air-pumps are lined with brass, and the whole of the machinery possesses great strength and durability; they have done a "duty" equal to the first in Cornwall, and are well worth the attention of any gentleman or company requiring such powerful machines.

The engines will be sold *with* or *without* the boilers, balance-bobs, &c., as may best suit the purchasers. There are also 250 fms. of large PITWORK FOR SALE.

Application to be made to Capt. R. Williams, on the mine.

Dated Godolphin Mines, Helston, Cornwall, Sept. 15, 1846. 3

TO BE DISPOSED OF, a FEW SHARES, in a very promising COPPER SETT, situated near St. AUSTELL, in the county of Cornwall. This being an undertaking of recent establishment, persons desirous of embarking in mining speculations will commence under very favourable circumstances.

For particulars apply to Mr. Charles Goodall, 2, Walbrook-buildings; or to Mr. W.H. Smith, 10, Warnford-court, Throgmorton-street.—Sept. 25, 1846. 4

LEAD MINES, INVERNESS-SHIRE.—The attention of CAPITALISTS and of MINING ADVENTURERS is invited to an extensive DISTRICT of rich and promising MINERAL GROUND, situate in the immediate vicinity of excellent roads, and within 10 miles from a shipping port, in the county of INVERNESS, which would BE LET, ON LEASE, upon advantageous terms. Under the superintendence of an experienced mineral agent, a shaft has been sunk to the depth of 20 fathoms; at the mouth of which, an engine and other works have been erected, and levels have been driven, in different directions, by the proprietor and his agents, with the view of exploring the lodes and strata, which are of a most promising character. A minute survey of the lands and workings has been recently made by an eminent mineral surveyor, whose report, with a sketch and sections of the workings, together with specimens of the ores raised, may be seen, on application, at the office of Edward Slaughter, Esq., 5, Duchess-street, Portland-place, London; and all further local and other particulars may be had upon application to Alex. Macdonald, Esq., Croyand Beauly, Inverness-shire, N. B. 5

TO MINING ADVENTURERS.—TO LET, on terms favourable to adventurers, a considerable TRACT OF GROUND, contiguous to Halkin Mountain, FLINTSHIRE, on the run of the well-known and productive Silver Rake lode. Persons disposed to adventure will find this an opportunity of securing ground of first-rate character, rarely to be met with, as the several landowners whose properties are on the line of the vein have agreed to let their lands together, to any company of known respectability who may come forward.

The capital required for the undertaking is so small, that less than £3000 will be ample; the vein, or lode, has been worked in the ground, above water, to about 25 to 30 fathoms deep, and was strong in ore; and several new shafts are now open, and available for future operations. The body of water is known to be no more than could be overcome by a very small engine.

Application to be made to Mr. Edward Williams, Garregiwyd, Mold; or to Mr. Edward Jones, Pendre, Holywell, Flintshire.—Sept. 16, 1846. 6

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 7

MINE MATERIALS.—I. T. TREGELLAS, Quay, TRURO presents his respects to MINERS, and begs to OFFER them the following GOODS, of good quality, and at the lowest market prices:—

IRONS, including best Shropshire Bars, extra-refined Chain Iron, Boiler-plates, Kibble-plates, Hoops, and Sheets
Steel, of every description
Coals
Gunpowder and Powder Cans
Hemp and Wire Cordage
Best Scrap Chain, warranted
Kibbles and Water Barrels
Nails of all kinds
Sheet Lead, White Lead, and Red Lead
Shovels
Picks and Pick Moulds
Mallets and Mallet Iron
Saws and Hatchets
Shovel Hilts from 1s. per doz. to 5s. per doz.
Pick Hilts
Smiths' Bellows
Oils—of every kind
Grease, at the makers' prices
Fire Brick and Building Brick
Pitch, Tar, Rosin, and Roman Cement
Anvils, Vices, and Files
Leather
Grindstones
Engine Shag and Sump Staire 8
Ore Ducks, Poldavy, and Sacking
Patent Felt, for covering cylinders, &c.
Patent Roofing Felt, 1d. per square foot
Lifting Jacks
Patent Fuse, Shooting Needles, and Clay Irons, and every other description of materials for general mine consumpt.

Dated Truro, Sept. 24.

N.B.—NORWAY and AMERICAN TIMBER—also, OAK and ELM.

TO BE LET, the PARK-HILL MINES, DEAN FOREST, GLOUCESTERSHIRE—containing ONE MILLION TONS of COAL, and ONE MILLION TONS of rich IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post paid) to Henry H. Fryer, Esq., solicitor, Coleford, Gloucestershire. 9

ASTURIAN MINING COMPANY.—Notice is hereby given, that all SHARES on which the CALL of £1 per share, due on the 1st inst., shall not be PAID on or before the 1st October, will be declared FORFEITED, and the numbers published. By order of the board of directors,

9, Austinfriars, Sept. 7, 1846. K. MACKENZIE, Secretary. 10

TAMAR SILVER-LEAD MINING COMPANY.—SMELTING DEPARTMENT.—Notice is hereby given, that TWENTY-FIVE PER CENT. of the SUBSCRIBED CAPITAL of this company, and TWENTY-FIVE PER CENT. of the BONUS, will be PAID OFF on Wednesday next, and following Wednesdays, between the hours of Twelve and Four. Interest on the above 25 per cent. will cease on the 29th inst.—The debentures must be left at the office three clear days, to be marked.

Finsbury-square, Sept. 14, 1846. 11

TAMAR SILVER-LEAD MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders of this company will be HELD at 44, Finsbury-square, on Friday, the 23d of October next, at Two o'clock precisely.—London, Sept. 25, 1846. 12

TRELEIGH CONSOLIDATED MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders will be HELD at the office, as under, on Wednesday, the 7th of October next, at Twelve for One o'clock precisely. By order of the board,

57, Old Broad-street, Sept. 21, 1846. WILLIAM NICHOLSON, Secretary. 13

MENDIP HILLS MINING COMPANY.—At the Annual General Meeting of shareholders, held at the offices of the company, 44, Finsbury-square, on Thursday, the 10th day of September, 1846,

EDWARD HARRISON BARWELL, Esq., in the chair,

It was unanimously resolved,—

That the report and accounts, now read, be received, adopted, and entered on the minutes. 14

It was moved by W. Fawcett, Esq., and seconded by A. F. Fearon, Esq.,

That the shareholders present recommend the directors to call a special general meeting of shareholders, in order to authorise the committee to take (if they think proper) the additional sett from Lord Clifden, referred to in their report of this day.—Carried unanimously.

It was moved by P. N. Johnson, Esq., and seconded by W. Fawcett, Esq.,

That the cordial thanks of this meeting be given to the chairman for his valuable services, and the able manner in which he has presided over the proceedings of this day.—carried unanimously.—44, Finsbury-square, Sept. 10, 1846.

TINCROFT MINING COMPANY.—At a Quarterly Meeting of the shareholders in the Tincroft Mining Company, held at the offices, No. 44, Finsbury-square, on Thursday, the 17th Sept., 1846, pursuant to advertisement,

JOSEPH GROUT, Esq., in the chair.

It was moved by John Field, jun., Esq., seconded by Richard James, Esq.,

That the report and accounts, now read, be received, adopted, and entered on the minutes.—Carried unanimously.

It was moved by John Field, jun., Esq., seconded by James Lee, Esq., 15

That the best thanks of the meeting be given to the chairman, for his conduct in the chair.—Carried unanimously.

It was moved by B. J. T. Nightingale, Esq., seconded by W. Birdsey, Esq.,

That the thanks of the meeting be given to the auditors, for their valuable services.—Carried unanimously. J. GROUT, Chairman.

WHEAL LEWIS MINING COMPANY.—At a Meeting of the shareholders, held pursuant to circular, at the offices of the company, 44, Finsbury-square, on Friday, the 25th Sept., 1846,

RICHARD HODGSON, Esq., in the chair. 16

The circular convening the meeting was read.

The report of the committee, with those of the mining agents, were read and approved.

The accounts, up to, and including, the July cost, were also submitted, and approved.

Thanks having been voted to the chairman, for the services rendered by him, and his courteous conduct in the chair, the meeting adjourned.

44, Finsbury-square, Sept. 25, 1846.

WHEAL CONCORD MINING COMPANY.—At a Meeting of adventurers in Wheal Concord Mine, held pursuant to circular, at the offices of the secretary, No. 4, King-street, Cheapside, on Thursday, the 24th day of Sept., 1846,

J. PICKERING, Esq., in the chair,

It was moved, seconded, and carried unanimously,—

That the report presented to this meeting be received, adopted, and entered on the minutes; and that the accounts submitted be approved, subject to the same being audited by two of the shareholders, to be appointed at the present meeting.

It was, thereupon, moved, seconded, and carried unanimously,— 17

That W. Morrison, Esq., and H. Smith, Esq., be appointed auditors.

Resolved unanimously,—That the lease of the mine be deposited with the bankers of the company.

Resolved unanimously,—That the following gentlemen be appointed as a finance committee:—

Mr. Edwards	Mr. Crosthwaite
„ Davey	„ Pickering
„ Pegg	„ Morrison.

Resolved unanimously,—That a call of 20s. per share, payable at such periods as the committee may deem fit, be now determined on, and that the same be made accordingly.

Resolved unanimously,—That the cordial thanks of the meeting be given to P. Davey, Esq., for the services rendered the company as a member of the committee, and the gratuitous offices performed by him on the mine, in the advancement of the interests of the adventurers.

Resolved unanimously,—That the meetings of the adventurers be held every two months—the next meeting being held on the 22d Nov., at the hour of Twelve o'clock precisely.

Resolved unanimously,—That the report and accounts submitted to the meeting be printed, and a copy transmitted to each adventurer. J. PICKERING, Chairman.

Resolved unanimously,—That the best thanks of this meeting are due, and are hereby given, to the chairman, for his services, and the general observance, on his part, of his duties as a member of the committee. JAMES CROFTS, Hon. Sec.

ASSAYING AND CHEMICAL ANALYSIS.—MR. MITCHELL begs to announce, that his WINTER CLASSES, for PRACTICAL INSTRUCTION IN ALL BRANCHES OF ASSAYING AND CHEMICAL ANALYSIS, will COMMENCE on MONDAY, the 12th October next.—Inquiries respecting terms, &c., to be addressed to Mr. Mitchell, 23, Hawley-road, Kentish Town. 18

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London. 19

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1843. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 20

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

THOMAS P. THOMAS, MINE AGENT AND DEALER IN RAILWAY AND OTHER SHARES, No. 80, *OLD BROAD-STREET, LONDON.* 21

T. P. THOMAS, in returning his most grateful thanks to his friends for the support they have given him, begs to assure them, that, from his personal knowledge of the leading mining captains and adventurers in Cornwall and Devon, as well as the principal adventurers in London and in the country, he is enabled at all times to procure the earliest information as to the alterations in the different MINES, and has every facility for the PURCHASE and SALE of SHARES at fair market prices, without advertising what particular shares he is a buyer or seller of—considering such a mode injurious to his principal.

T. P. T. having lately returned from the county of Cornwall, and having personally inspected the underground workings of many of the mines, will be happy to give any information respecting them.

MR. RYE has BUSINESS to do in Trelawney, Wheal Gill, Mary Ann, Condurrow, Craddock Moor, Kirkcudbright, West Caradon, Gonamena, Old Harrowbarrow, Andrew and Nangiles, South Wheal Francis, South Basset Mines, and West Cornwall and Cornwall Railways.—80, *Old Broad-street, London.* 22

MINING OFFICES, No. 1, ST. MICHAEL'S-ALLEY, *CORNHILL, LONDON.* 23

Messrs. WATSON & CUELL have received instructions to PURCHASE SHARES in East Tamar Consols, South Tamar, Copiapo, East Rose, Alten, Stray Park, and Mary Ann Mines; and have FOR SALE, SHARES in all the best DIVIDEND MINES in Cornwall and Devon, paying from 18 to 20 per cent. per annum.

MINING PROPERTY.—CAPITALISTS who are disposed to INVEST in CORNISH and FOREIGN MINES, will find the present opportunity very favourable for so doing. From large sums having been lately diverted from such investments for railway speculations, standard mines are now selling at prices that will pay the purchaser 20 per cent. per annum for his outlay. There are also other mines that are on the eve of paying dividends, which can be recommended with confidence.

Applications to be made to Mr. JAMES HERRON, mining agent, No. 3, Adam's-court, Broad-street, London. 24

WHEAL CORNWALL: 100 shares.
GWINEAR CONSOLS: 256 shares.
WEST PROVIDENCE: 256 shares.—[*Dividend of £1 10s. per share, now payable.*]

MR. R. TREDINNICK will be happy to afford parties every INFORMATION respecting the ABOVE MINES, on personal application at his OFFICE, and proffers his SERVICES to CAPITALISTS and ADVENTURERS in the PURCHASE and DISPOSAL of SHARES of every description. 25

Mr. TREDINNICK being in constant communication with experienced practical agents in the several mining districts, can, with confidence, recommend to shareholders, desirous of acquiring information from personal inspection of the mines, agents on whose reports every reliance may be placed.

MINING AGENCY OFFICE—THREE KINGS-COURT, LOMBARD-STREET.

JAMES LANE, MINING SHAREBROKER, 75, *OLD BROAD-STREET, LONDON.* 26

JOHN HARVEY, SHAREBROKER AND ASSAYER, *LISKEARD, CORNWALL.* 27

WILLIAM TRENERY, DEALER IN RAILWAY AND MINING SHARES.—ESTABLISHED TEN YEARS. *OFFICES, No. 50, THREADNEEDLE-STREET, LONDON.* 28

MESSRS. LINTHORNE, JONES, AND CO., STOCK, MINING, AND SHARE AGENTS,

*** Every information will be afforded as to the markets and prices of the above, by application (post-paid) at their offices, 29

48, *THREADNEEDLE-STREET, LONDON.*

WILLIAM H. SMITH, MINING SHARE AGENT, 10, *WARNFORD-COURT, THROGMORTON-STREET.*

*** SHARES in many valuable MINES FOR SALE, and every information will be afforded, on application. 30

WILLIAM FOX AND SON, No. 53, CASTLE-STREET, LIVERPOOL, have always on SALE PIG-IRON, RAILWAY BARS, CHAIRS, and IRON of every description.—TIN PLATES, WIRE, &c. 31

WHEAL CURTIS COPPER MINING COMPANY, in the PARISH OF CROWAN, NEAR CAMBORNE, CORNWALL.

In 6000 shares, of £4 each.—Deposit £1 10s. per share.

PROVISIONAL DIRECTORS.

GEORGE PILKINGTON, Esq., C.E., late Captain Royal Engineers.
GEORGE EVANS, Esq., C.E.

(Other shareholders will be shortly published.)

Bankers—Messrs. Cunliffes, Brooks, Cunliffe, and Co.
Solicitor—Henry Bull, Esq.
Secretary—E. Mills, Esq. 32

This mine is in its infancy—the shaft being now only at the depth of 47 fathoms below the adit; nevertheless, it has already produced upwards of £10,000 by its copper ore—one-half of which sum the late Mr. Thomas Teague, of Redruth, the celebrated mining captain, who worked this mine at his own individual cost, appears to have expended in carrying on the works; so that, by reason of his decease, he left the mine at the very point to which his hopes of wealth had been directed, and at a time when she was very productive, according to Messrs. Vivian's report, as in prospectus.

It having become necessary to fork the mine, and to sink a new shaft to the westward of the present one, directly over a rich bed of ore, mentioned in the report of Capt. Richard Rowe and Mr. Henry Thomas, F.G.S., and to open new and deeper levels, as well as to work effectually those already made, which Capt. Teague's decease prevented him accomplishing, and to carry on which works a powerful 70-inch engine has been required; therefore, it is proposed to form a company to carry out these objects, for which purpose it has been determined to distribute the interest of this mine into 6000 shares, of £4 each, of which 3000 are to be appropriated for advances already made in putting it in its present state of forwardness, and the remaining 3000 are to be sold and appropriated for the above purposes, upon the delivery of which a deposit of £1 10s. per share will be required.

It is anticipated that the deposit on the 3000 shares will be adequate to the success of the undertaking, but should any further call be required, a general meeting of the shareholders will be summoned, when a statement of the affairs of the company will be submitted, and the holders of the 6000 shares will be required to answer any call that may be made at such meeting, or forfeit their shares.

No call to be made before the end of three months, and such call not to exceed the sum of 6s. per share. No responsibility will attach to any shareholder, beyond the deposits paid, and the calls to be made on the shares.

It is a well-known fact that shares in mines recently opened under inferior prospects to those which Wheal Curtis presents were purchased at as low a price as those now offered to the public, and have since realised £500 and upwards per share; and such is the confidence of the committee in the capabilities of this mine, that they have taken upon themselves to purchase at auction the splendid 70-in. engine of the Hallenbeagle Mine, its boilers, pumps, and other materials, by which £1000 at least has been saved to the company; they are also pushing forward the proposed works with vigour.

The business of the company will be under the control of a committee of shareholders, of whom three shall form a quorum, and subject to such rules and regulations as may hereafter be determined. These to be selected from the best applicants for the 3000 shares now to be issued; and, before taking office, they shall be assured of the correctness of the statements herein made.

The mine is taken with a lease of 21 years from December 26, 1845, dues reduced to 1-18.

To prevent any suspicion of partiality in the allotting of the shares, each applicant of good reference will immediately receive a letter of, allotment for the whole amount of shares required, which, if not promptly paid into the bankers on the day prescribed in the said letter, will be granted to the next unsupplied applicant.

Reports of well-known mining captains will be found in prospectus, and any further information will be afforded at the offices, Gresham-rooms, Basinghall-street, where specimens of the ore may be seen.

Application for shares to be made, at the above offices, to

E. MILLS, Secretary pro tem.

WHEAL CURTIS COPPER MINING COMPANY. FINANCIAL ANNOUNCEMENT.

The £4500 to be raised by the deposit on the shares issued to the public will be applied, without deduction for rent of offices, salaries, or allowances to directors, or other officers connected with the direction of the company, (they having consented to forego all claim to the same, until the working of the mine shall exhibit a profit to the shareholders), to the purposes stated in the following summary, as follows:— 33

A 70-in. engine with boilers	£1525
Engine-house £360, timber £500	860
Ropes, chains, whims, &c.	600
Pumps and pump-work	500
Captain's salary and labour for four months	500
Capstan sheers, flat rods £150, iron and steel £150	300
Excavating new shaft to adit £50, carriage of materials £120	170
Total	£4455

Shareholders holding 200 shares will be invited to become directors in the company, under such provisions in the deed establishing it as will protect them from all responsibility beyond the amount of their shares; and a statement of receipts and payments will be published, for circulation, on the first day of every month, and given to every shareholder on application.

Application for shares to be made at the offices of George Pilkington, Esq., managing director, Gresham Rooms, Basinghall-street, addressed to E. MILLS, Sec.

MR. BIRAM'S OSCILLATING STEAM-ENGINE.

In a former Number, we gave a description of the very ingenious oscillating engine of Mr. B. Biram, as originally patented by him. We now present our readers with a modification of the engine, since devised by the inventor, which will be found, we think, to obviate, in a great measure, an objection advanced against it—namely, that it did not admit of a sufficiently rapid escape of the used steam. By this modification the eduction passages may be left wide open, whilst those for the admission of the steam can be contracted at pleasure. It may, perhaps, be still urged, that in steam-boats, where the consumption of the *least possible* quantity of steam is the chief desideratum, the expansive principle cannot be so perfectly applied on this as on some other modes of working. Granted; but the objection is one of degree only—for, to a certain extent, the steam in this engine will act expansively when the full power of the engine is not required; for, whilst the crank is passing the centres, the steam port into the cylinder is contracted, and the piston is moving the slowest, and the steam continues passing into the pipes *g*, *g*, and into the hollow of the steam chest, until there is an equilibrium of steam pressure in those vessels and the boiler. During the quicker parts of the stroke, this steam acts expansively upon the piston—the admission into the steam chest being contracted by the partial closing of the port by the valve *c*. In many districts, working steam-engines expansively is, even at this day, scarcely thought of, and in such places, at least, we cannot help thinking this will be found a cheap and durable engine.

Fig. 2

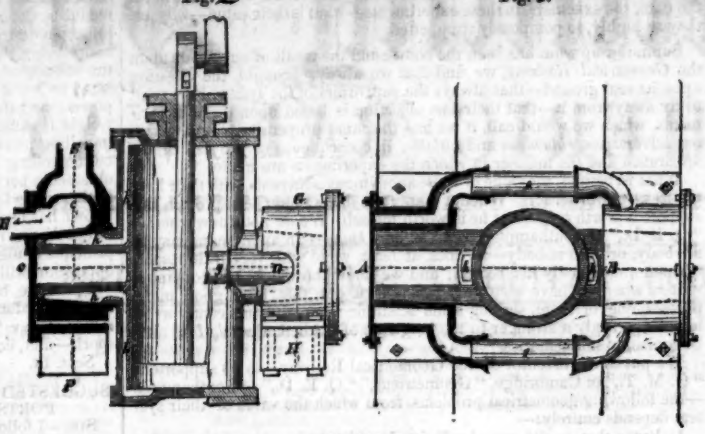

Fig. 1.

Fig. 5.

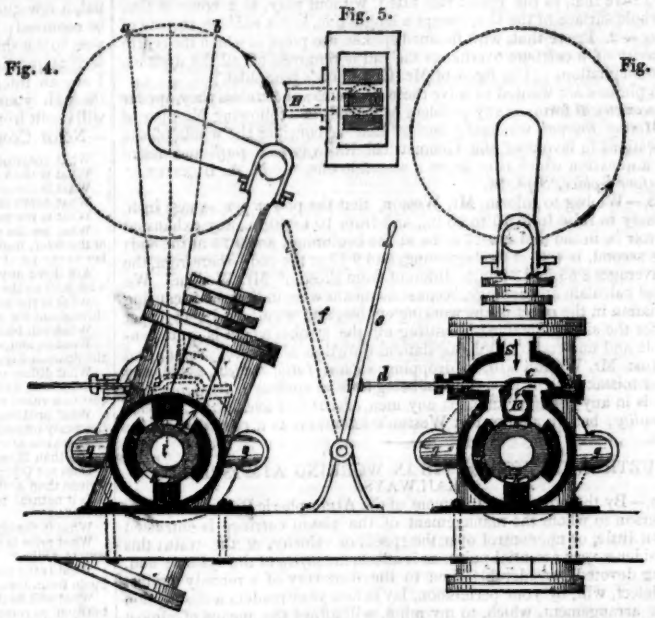

Fig. 4.

Fig. 3.

DESCRIPTION.

Fig. 1 is a plan of an oscillating engine, in section across the line *c* D of fig 2, through the centre of the cylinder, and one of the trunnions and steam chests, both being alike upon this section.

Fig. 2 is a front elevation, in section upon the line A B of fig. 1, through one side of the cylinder, trunnion, steam case, and valve box.

Fig. 3 is an end elevation when the crank is upon the centre, showing a vertical section on the line S P, fig. 2.

Fig. 4 is an end elevation when the engine is at half stroke, or the greatest angle of oscillation. The shaded parts show a section on the line G H of fig 2.

Fig. 5 shows the plan of the openings into the upper surface of one of the steam chests, which also forms the bottom of the valve box, the centre opening communicating with the eduction pipe, and the other two both with the steam and eduction pipes; their connection with either being regulated by the position of the sliding valve.

The same letters refer to the same parts in each figure.

S is the steam pipe; E, the eduction pipe; *c*, the slide valve; *d*, the rod for moving the slide valve by means of *e*, a hand lever attached to the above rod; *g*, *g*, two pipes forming the communication with the corresponding divisions of the two steam chests.

There are steam ports *h h*, on each side of the cylinder, forming a passage for the steam between the tops of the trunnions and the top of the cylinder, and the bottoms of the trunnions and bottom of the cylinder, each of *full* half the usual area of steam ports: these communicate alternately with each section of the steam chests, by the oscillating motion of the cylinder, and, if constructed according to the proportions in the engraving, would be open equal to the area of the ports when the piston-rod had moved one-third of its angular distance from the centre (on to the dotted line *a*, *i*, or *b*, *i*, fig. 4) being about $\frac{1}{10}$th part of length of stroke on passing the top centre, and $\frac{1}{20}$th part of the bottom centre. The trunnions are shown conical, and should be made to fit truly into corresponding sockets in the steam chest, which form also the support of the cylinder. The steam chests are screwed on to bearings of metal or timber, and, to one, provision should be made for tightening them upon the trunnions from time to time, to preserve them steam-tight as they wear.

The arrows show the direction in which the steam and engine would move, when the handle and valve are in the position shown in fig. 3. The supply of steam would be reduced, or cut off, and the engine thereby eased or stopped by placing the handle more perpendicular, and the direction of the engine would be reversed by inclining the handle towards the position *f*. So long as the engine was working at the desired speed, the handle and valve would have no motion. The fly-wheel should be so balanced as to overcome the weight of the crank, and neutralise the otherwise tendency of the engine to rest upon the bottom centre, whence, of course, it could not be started without the fly-wheel being first put in motion. Generally, to *start* the engine, it would only be necessary to incline the handle one way or the other; and to *stop* it, to place it again perpendicular; and as this could readily be done at a considerable distance from the engines, by lengthening and proportionately strengthening the rod *d*, these engines would be peculiarly adapted for winding up at mines or collieries, as one man at the pit's mouth could start, regulate, or stop them, being not only a saving of labour, but diminishing the risk of accident, from not observing the signals indicating that the material is near the surface. Steam vessels upon a crowded river, upon this plan, could be put completely under the control of the "look-out" on the paddle-box, who could "ease her," "stop her," or "turn her astern," almost with the same facility as he at present makes those signals to the boy, who bawls them out to the engine-man below.—*Mechanics' Magazine.*

FAUVELLE'S NEW SYSTEM OF BORING.

At the meeting of the British Association, Mr. VIGNOLES read a paper, furnished by M. Arago, for the purpose of being communicated to the association—M. Arago himself being prevented by illness from attending—"On a new method of boring for Artesian Springs," by M. Fauvelle, of Perpignan, in France. The paper was an abridged translation of M. Fauvelle's own account, in which he says:—"In 1833, I was present at the boring of an Artesian well at Rivesaltes; the water was found, and spouted up abundantly. They proceeded to the tubing, and for that purpose enlarged the bore hole from the top downwards. I was struck by observing, that it was no longer necessary to draw the boring tools to get rid of the material; and that the water, rising from the bottom, brought up with it, in a state of solution, all the soil which the enlarging tools detached from sides. I immediately observed to my friend, M. Bassal, who was with me—This is a remarkable fact, and one very easy to imitate; if, through a hollow boring rod, water be sent down into the bore hole as it is sunk, the water, in coming up again, must bring with it all the drilled particles." On this principle, I started to establish a new method of boring. The apparatus is composed of a hollow boring rod, formed of wrought iron tubes screwed end to end; the lower end of the hollow rod is armed with a perforating tool, suited to the character of the strata, which have to be encountered. The diameter of the tool is larger than the diameter of the tubular rod, in order to form around it an annular space through which the water and the excavated material may rise up. The upper end of the hollow rod is connected with a force-pump by jointed and flexible tubes, which will follow the descending movement of the boring tube for an extent of some yards. This boring tube may be either worked by a rotary movement with a turning handle, or by percussion with a jumper. The frame and tackle for lifting, lowering, and sustaining the boring tube, offer nothing particular. When the boring tube is to be worked, the pump must be first put in motion. Through the interior of the tube a column of water is sent down to the bottom of the bore holes—which water, rising in the annular space between the exterior of the hollow boring rod and the sides of the bore-hole, creates an ascending current, which carries up the triturated soil: the boring tube is then worked like an ordinary boring rod; and as the material is acted upon by the tool at the lower end, it is immediately carried up to the top of the bore hole by the ascending current of water. It is a consequence of this operation, that the cuttings being constantly carried up by the water, there is no longer any occasion to draw up the boring tube to clear them away—making a very great saving of time. Another important, and certainly no less, advantage, is, that the boring tools never get clogged by the soil; they work constantly (without meeting obstructions) through the strata to be penetrated—thus getting rid at once of nine-tenths of the difficulties of boring. In addition, it should be mentioned, that experience has shown there are no slips in any ground which ordinary boring rods can penetrate; that the boring tube works at 100 yards in depth with as much facility as when only 10 yards down, and that from the very circumstance of its being a hollow rod, it presents more resistance to torsion than a solid rod of equal thickness and quite as much resistance to traction; these are the principal advantages of the new system of boring. Indeed, these advantages have been fully confirmed by the borings which I have just completed at Perpignan. This boring was commenced on the 1st July, and was completed on the 23d, by finding the Artesian water at a depth of 170 metres (560 English ft.) If from these 23 days, each of 10 hours' work, are deducted three Sundays and six lost days, there remain 14 days, or 140 hours of actual work; which is upwards of 1 metre per hour—that is, 10 times the work of an ordinary boring rod. In the method I have described, it will be perceived that the water is injected through the interior of the boring rod. Experience has taught me, that when gravel, or stones of some size, are likely to be met with, it is better to inject the water by the bore hole, and let it rise through the boring tube. The additional velocity which may be thereby given to the water, and the greatest accuracy of calibre of the tube, allow the free ascent of all substances which may be found at the bottom of the bore hole, and which the former mode of working may not so readily accomplish. I have brought up by this latter way stones of 6 centrimetres long and 3 thick (2½ by 1¼ English in.). The idea of making the water remount through the interior of the boring tube suggests an easy mode of boring below a film (sheet) of flowing water; it would be sufficient to close the orifice of the bore hole hermetically—still, however, so as to allow the boring tube to work, but yet so that the flowing water should always be forced down to the bottom of the bore hole to find its way to a vent: it would thus draw up and carry away all the detritus. If, in addition to the above, we consider the possibility of making the hollow stem of the boring rod of wood, and of balancing it so that it would weigh no more than the water in which it has to move, the problem of boring to depths of 1000 metres (1100 yards), and upwards, would appear to be solved. In the square of St. Dominique, at Perpignan, a boring had been carried on upon the old method for upwards of 11 months, for the purpose of forming an Artesian well, and the water had not been found." Fauvelle placed his new tube alongside the old boring tackle, and soon got down to a depth of nearly 100 yards, when an accident occurred, which would have required some days to remedy. Fauvelle decided upon abandoning the bore-hole already sunk so deep, and commencing a new one, satisfied that there would thereby be a saving of time. The rate of sinking was equal to 4 English ft. per hour of the time the hollow boring rod was actually at work, the depth of 560 English ft. having been obtained in 140 working hours, for a bore hole of about 6 English in. in diameter. M. Arago, who had seen the rods of Fauvelle at work, mentions how fully they answered, and that the large powerful tools at the bottom of the hollow boring rod cut easily through the hardest strata; he confirmed the fact of the large-sized stones and gravel coming up with the ascending current, having himself watched them. He also mentioned, that such was the opinion of the people in the vicinity of Perpignan, and so much was water wanted, that orders for sinking upwards of 200 Artesian wells had been given to Fauvelle. The introduction of this system into this country, especially if combined with the Chinese or percussive system of boring, as practised with bore holes of very large diameter, at the Saarbruck Mines, and at many other places on the continent, must be productive of great benefit, and would not merely effect a saving of money and labour, but the paramount advantage of immediately solving the question of the existence of coal, minerals, water, &c.

Sir JOHN GUEST asked Mr. Vignoles to explain the system of percussion boring, for the information of those gentlemen present who might not be acquainted with it.—Mr. VIGNOLES said, instead of boring with augers or rods, there was a heavy weight suspended by a rope and pulley; and fixed to the bottom of the weight was a tool of the crown form—viz., a circular tool of iron, indentated at the bottom. There was no description of rock on which he had tried it that this tool did not penetrate with facility. The prejudice of English workmen, however, had hitherto prevented its introduction in this country; but he had no doubt it would make its way, particularly if combined with Fauvelle's system.—J. LOBB, Esq., Mayor of Southampton, wished to ask a question relative to the applicability of Fauvelle's plan to the boring of the Southampton Artesian well. They had got to the depth of 1200 ft. with a bore 6 in. in diameter, and the expense had been nearly 20,000*l.*; this system, however, seemed to diminish the expense of boring in an extraordinary manner; and he wished to ask, if it could be applied to the present boring at the Southampton Common.—Mr. VIGNOLES, as an engineer, had no hesitation whatever in saying, that it could be applied without difficulty. If they wanted force to send the water down the tube, they might use a steam-engine.—Dr. ROBINSON suggested that a deputation from the Section should go to the works of the Southampton well, and inspect them.—Mr. J. HILL said, that percussion had long been used in this country. They had used that plan whenever they came to hard substances in the Southampton boring. The rods were drawn up by a windlass, and dropped down a foot or 6 in.; and after the material was loosened, the rods were drawn, and the pulverized material raised up by a cylinder.—Mr. VIGNOLES said, this was different from the Chinese system of percussion, where a rope was used, which saved the trouble and loss of time in drawing the rods. The power required for sending down the water on Fauvelle's plan was much less than might be supposed.—The MARQUIS of NORTHAMPTON suggested that a committee of the Geological Section should be invited to accompany the committee from this section.—Dr. LANKESTER expressed his warm approval of M. Fauvelle's plan, and his opinion of its applicability.—A conversation followed—in the course of which Sir JOHN GUEST said the weight of a hollow rod, 3 in. in diameter, and the iron a quarter of an inch thick, would be less than that of a solid rod of an inch diameter: the weight would be further lessened by the rod floating in water.—*Athenæum.*

GREENHOW'S GEOMETRICAL RAILWAY SYSTEM.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Having once taken up my pen in behalf of Mr. Greenhow, I have a kind of itching to do so again, and thus at once constitute myself a partisan. It is a curious, but equally certain, fact, that let us once speak in favour of any person, or thing, we immediately become interested in, and, as it were, identified with, the future destiny of that object. Let physiologists determine the cause; but such is the case in the present instance—for, although a perfect stranger to Mr. G., I yet feel as if I had a personal interest in his success. Mr. Greenhow, in his pamphlet, justly remarks, that the railways "remain much the same state as they were many years ago in the north of England, when moving at moderate speed, and before the introduction of locomotive power." This simple truth conveys greater censure, and attaches more blame, to the "*eminent engineers*" of the day, than is at first apparent. These men have, either ignorantly or inconsiderately, applied a crude and unsafe principle of construction to those mighty national works, in which millions have been expended, and which, not like the evanid fancies of a day, are completed and forgotten, but must for ever remain a speaking monument of the scientific attainments of the age in which they were constructed. Where, I would ask, in any one instance, is the hand, or the presence, of a master-mind apparent? In vain do we look for it—the tunnellings, cuttings, and embankments, of which so much has been said—what are they? The mighty effort of genius, or a superior intellect, to bring into subjection the unerring principles and laws of Nature? No; but the expedients of feeble and imbecile man, striving to achieve, by actual *manual labour*, what ought to have been accomplished by the application of science. Yet, in all those works, do we find anything to compare to the substantial remains of the Romans, or the Egyptians?—do we find in one single instance that the principles of construction, or the application of material, has been improved? Verily, I blush for the age in which I live. Let the Brunels, Stephensons, and Rennies, look more to the honours than the profit to be derived from their works—let them be influenced more by philosophy than avarice—instead of haughtily and arrogantly despising the attempts of others, to render more perfect their immature and ill-digested works. With that humility which invariably attends true genius, and waits on the real philosopher, let them seek for the knowledge of truth, and strive to attain that perfection in their works, which will not only render themselves immortal, but materially conduce to the honour of the age in which they live.

No one, be he mechanic or mathematician, can bring forward one argument in support of the flat rail and angular flange, as at present constructed—because there is not the slightest adjustment, or mechanical connections, between them. The rails have not only to support the weight of the body moving on them, but also to perform the office of guides, indicating the direction to be taken by the momentum; and, in spite of Mr. Burnier's assertion, that the action of the flange is only a *disorder*, I shall not err in stating, that it is so *necessary a disorder* that the carriage could not run 50 yards on the rails without requiring its action; the inference, therefore, is, this disorder is inherent with the railway system, and cannot be separated from it. This suggests the inquiry, how can this disorder, to which an edge railway of necessity is subject, be rendered innoxious, and the rails made to guide the carriage safely and securely in its course, at the same time that there is the very slightest degree of increase to the friction, and an unbroken mechanical arrangement between the wheels and rails? This problem has, in my opinion, been certainly and decidedly solved by Mr. Greenhow. The round rails, together with the tires and spokes of the wheels, constructed as he proposes, meet all the contingencies of the case. In diverting the course of the momentum in the required directions, the inclined spokes, acting on the round rails, gently and insidiously gives the necessary impulse, without any danger of causing the violent reaction, and consequent dangerous rebound, which now takes place—rendering a journey by railway a continual succession of alarm and anxiety, at the conclusion of which the traveller thanks God that he is more frightened than hurt, feeling that he has certainly escaped some imminent danger. It is no argument to say, that hitherto accidents have been very few, considering the number that travel—"the pitcher may go once too often to the well"—and I am well assured that accidents from getting off the line occur much more frequently than the public are aware of. When the injuries received are not of a nature to require a "*coroner*," the affair is hushed up, and the public generally remain in ignorance of it. No doubt many of your readers have been present on occasions of this kind, and been surprised that they never heard the matter named on any further occasion. I am only astonished that the public take the matter so quietly; the true reason, I fear, is that so many are interested in the existing state of things, and, therefore, the engineers are enabled to keep in check any ebullition of feeling on the subject; but, eventually, *humbug* must succomb, and truth will prevail, in spite of the contemptuous—contemptible would be a better word—silence of the *eminent engineers*, who have been thrust into their position by the unparallelled circumstances of the times, not having achieved it by their superior skill or wisdom; but, as they would say in the mercantile world, the demand exceeded the supply, and very inferior articles were obliged to be substituted: but the rage and excitement of the period is over; and the public, now coming to its senses, will inquire, where are the *superior works* of those, our *idols*? Echo will answer—where! I am forgetting that space is required in your valuable paper for other epistles than mine, and, therefore, subscribe myself—Q. E. D.: *Southampton, Sept.* 16.

P.S.—I expect to be in London in a day or two, when I will, if possible, call on Mr. Greenhow, and examine the models, which I am anxious to see.

GREENHOW'S GEOMETRICAL RAILWAY.

Round Rails. T Rail; or, the Principles of the Geometrical Railway Examined. By Geometricus.

The name ascribed to the system examined in this pamphlet, that taken by the author—the dedication of it to the engineers of Great Britain—are for us as many reasons for expecting in that publication the clear manner of proceeding—the easy and serious demonstration—the positive conclusions—which characterise *geometry*; and it is with all the attention required by such a subject that we proceed to our perusal.

It is not in the humble style, usually employed in mathematical demonstrations, that the author begins his work. Muses are not always strangers to philosophy; and "Geometricus" starts, as any epic poet would do, by an allegorical invocation to the goddess of steam to protect him—*the knight of the round rail.*—Chivalry is rather an old tale; and the well-known story of a Spanish knight, fighting with certain windmills, proves that knights are anything but clear-sighted.—We must have patience, and we shall probably, in due time, see our *amadis* change his lance and his shield for a compass and a sextant.

A slight observation before we proceed.—We are rather disappointed to see, in the first page of the book, the author change his rôle of examiner for that of supporter, and think that it would have been better not to announce as a critic, what is avowed as a mere apology of the system.

"A railway," says "Geometricus," "is a great machine, composed of great many parts, some fixed, others moveable; its purpose is locomotion; the principles implied in it are the application of a powerful tractive force, and the reduction of the causes of resistance within the smallest limits."

Here we arrive at the important part of the question—What are these causes of resistance? what is the influence of the form of rail upon the value of this resistance? The author gives, under four heads, the causes of resistance, and, without other explanations, proceeds to say, that railways are far superior to the highways and bye-ways of old, but are still much susceptible of improvements in the form of rails, chairs, the method of connecting them with the sleepers, &c.; he objects to the loose fitting of the wheels on actual railways, where more than half-an-inch play is left between the rails and the flanges, and says that it is impossible to exclude from the construction of railways geometrical and mathematical principles.

All these observations may be very true, defects may exist in railways,

and every one travelling on them will be very soon convinced of it; but, instead of exposing these defects, we should have expected that "Geometricus" would have favoured us with the geometrical explanation of those causes—would have laid down the principles to be followed in avoiding them—would have calculated, measured, and not only spoken.

The argument brought forth by him, to justify the round rail and condemn any other form, is this:—

1. Machines can only act perfectly when the several parts are well fitted together. According to this principle, the concave tire, being perfectly fitted to the convex rail, must act perfectly well.

We do not see why it would not be just as possible to fit a flat rail to a flat tire—to adjust the flange of the wheel in closed contact to the side of the rail—and then, according to the principle laid down, the railway ought to act perfectly well, all its parts being perfectly fitted.—Experience, and *well understood* geometry, have proved the advantage of a little play; because it is necessary to avoid, as much as possible, the increase of resistance, arising from the *rubbing* action of the flange.

Another illustration. If the exact fitting is the great cause of good action in a machine, let us suppose that, instead of carriages with wheels, sledges should be employed on railways—that four gun-metal surfaces should be applied perfectly to a perfectly planed and smooth rail—that a lateral piece, screwed on the rail, should keep these supports invariably in their places, so as to make of a railway a perfect sliding machine—would it act well? It would certainly present 10 or 12 times more resistance, *and still be a well-fitted machine.*

The principal object, to be attained in the form of rails, is to lessen resistance; and the exact fitting is nothing but a general rule of practical mechanics, upon the observation of which the good action of a machine must depend as little as possible. A machine must act well by the principles of its construction—the less fitting it requires the cheaper, the safer, the better it is, and a perfect execution will never avoid inherent defects of principles in it.

The second axiom, laid down by "Geometricus," is this:—

Round is the only form which presents an uniform surface in all directions; and therefrom he deduces, that motion in railways taking place in more than one direction, the round form is the only one capable of presenting a perfect fitting in every case.

We must here give a little illustration of the idea upon which the whole theory of the Geometrical Railway is based. The inventor of this railway has represented a train on a line, as acted upon by two different agents: 1st, the motive power, proceeding in the direction of the line; 2d, a lateral impulse, producing (what is termed in the pamphlet) *a movement in a second direction*, under the influence of which the whole weight of the train is thrown on one rail; the carriages oscillate round this rail as a fulcrum, —so that a train proceeding along a line is absolutely in the same position as a man in the action of *skating*, supported entirely either by one or the other of his feet, and overhanging this support, so as to maintain his equilibrium.

The result of this manner of looking at the question has been the proposal of a round rail, by which a carriage could, indeed, describe any motion, and still have the tire of its wheel fitted to its support; but the advantage, the expediency of adopting round rails, is far from resulting therefrom; and if we inquire how right is the supposition upon which the round rail is based, we find that the weight of the carriage, the springs always ready to press the wheel down, prevent that any such thing should ever take place on the railway. The rebound which results from the interval left between two sections of rail, is certainly much over-estimated at one-half of an inch; and if we calculate upon the ordinary gauge, and with the ordinary rails, we find that the motion described round the opposite rail is $\frac{1}{4}°$, and the distance left between the tire and the inner edge of the supporting rail is the 56th part of an inch; and yet this would be entirely avoided, if railways were what they ought, what they will be—an unbroken surface.

A round rail is thus unnecessary, and the friction which it presents renders its application impossible.

The fact upon which rests the Geometrical System, is one of these *microscopic* exaggerations, which may occur to the eye of a knight, but ought to be unknown to a mathematician; and we see that, if in one instance a *microscope* has been employed, a *megascope* has been used in another,—when, to avoid accidents, the whole weight of a carriage, amounting to several tons, is caused to be supported by two pivots. The author supposes, no doubt, their breaking impossible; but let us suppose them to break, and what will be the consequence of it?

But we must follow the arguments of "Geometricus," who, having *demonstrated* by the two preceding principles, the advantages of the round rail, proceeds to the explanation of the inclined spoke.

This part of the publication is the mere repetition of Mr. Greenhow's pamphlet; "Geometricus" ascribes the same advantages, presents the same reasons, refers the reader to the same *fig.* 4, and the only trace of *geometry* we find in it is a *very remarkable* figure, in which the author shows that a spoke inclined, inside the rail, of $22\frac{1}{2}°$, can oscillate $22\frac{1}{2}°$ round the rail, without going farther than the perpendicular; and that a perpendicular spoke moved, of $22\frac{1}{2}°$, is inclined as much out of the perpendicular line —exactly as if the centre of gravity of the carriage was the same as that of the spoke, and the spoke *rigidly* fixed to the carriage was to act the same as if it was alone.

Is this all the title of the author, for taking the name he has assumed? —is this that examination *so pompously* announced in this title? indeed, we do not doubt the scientific attainments, the practical skill of the engineers of Great Britain; but we also believe that, if the author had any special fancy for the name he has assumed, he did very well to take it himself, because we do not think that any of the engineers of Great Britain would have applied it to him.

All the arguments presented in favour of the inclined spokes have been refuted in our first letter. The *fig.* 4 has been proved a gross mistake—no answer has been opposed to our figures and demonstrations—and these same figures, this same explanation, are brought again, under pretence of examination, before the public! Does "Geometricus" reckon upon the ignorance of his readers? We do not know; but it would have been better to solve the question upon which the value of the system lies, than to present it again unexplained, unprotected.

If the *article to be sold* was something of the same kind as the *highly flavoured tea, the fashionable clothes*, &c., of some well-known advertising houses, we could understand that the complaints of a first customer should be left aside, that new prospectuses with new names should be published, to make up for the quality of the article, because these things are matters of taste, merchandise; but a geometrical question is not a matter of taste —there can be but one opinion about it, and the want of right will not be compensated by names, titles, and a more or less quantity of printed paper.

The whole of the concave tire is a flange—we did prove it—and it is the first time we saw a *denegation* answered to an argument, and a question of friction solved by observations on pressure—indeed, we should like to see in Mr. Greenhow *pedantry* enough to make arguments and geometry as they usually are made.

The oval rail has with the round rail this analogy, that the parts superposed in the passage of the tire are but a line, whilst the rubbing parts exist everywhere: therefore, in the round rail the same friction would exist as in an oval one, the same quick wear, the same necessity of *substituting others*; the advantages claimed to the round rail, of offering to the tire the same fitting on several portions, is illusive—because the tire varies from its perpendicular position only a quarter of a degree, the short time of that variation cannot be considered of any importance.

The oval rail has over the round one this advantage, that the greatest strain over the rail being in the perpendicular direction, the material is disposed so as to resist it. A round rail will not bear more weight than an oval one much lighter; there is thus waste of material in the round rail—and the *oval one*, though presenting the same disadvantage of friction, is economically superior.—The experiments made by Coulomb, Rennie, and Morin, are unanimous. They were made with perfect apparatus, every circumstance was taken into account, and it is easy to see how scrupulously and ably they were made in perusing the details of the apparatus and results. We went by an appointment to see the inclined planes—the two similar lines of railway—the two equally weighing carriages, constructed by Mr. Greenhow, to prove wrong the results of Coulomb, Rennie, &c.; and were not a little surprised by the sight of a kind of *toy railway*, some 6 ft. or 8 ft. in length, with one extremity raised, representing 2 ft. of an inclined plane. The matting of the floor was the regular levelling of this carefully constructed apparatus; and on one side a carriage 15 in. in length, rolled with concave tires over convex brass rails—whilst, on the other, a poor, old, crooked deal box presented two pairs of wheels with flat tires, rolling over iron flat rails. When we came to investigate in a closer manner into this *liliputian* apparatus, we found that, by a very extraordinary effect, attributed to the *sun* and *heat*, the axles, fitted upon the crooked box, were crooked themselves, and that only two of the wheels did touch the rails. This simple circumstance will allow the reader to judge what is the care, the exactness, in these experiments—what is their value—why are they so highly, so pompously trumpetted.

Summing up what has been the course and the result of our *débats* upon the *Geometrical Railway*, we find that we always brought the question upon its real ground—that always the supporters of the system have tried to fly away from it—that their last objection is based upon those experiments, which we would call, if we had the same propensity to epithets as our adversaries, *ridiculous* and *pitiable*, in consequence of the size of the apparatus, and the manner in which the experiments are made.

What is, besides, the value of those anonymous adherents, with their long phrases, void of sense? When a man gives his support to a project, this support is worth only what he is worth himself. We do not know whether "Q. E. D.," of Southampton, is a *fool* or a *knave*—an anonymous may be anybody, or even nobody—he does, at least, write with very little respect of men undoubtedly his betters; and we know the weight of anonymous writers when we have seen such things turn out, that, after good many phrases, one of them, signing some scientific name, did innocently avow himself perfectly a stranger to the language of mathematics, *algebra*, and, of course, to mathematics.

We put to the inventor of the Geometrical Railway—to its supporters, "G. M. T.," of Cambridge, "Geometricus," "Q. E. D.," of Southampton —the following geometrical problems, from which the value of their system depends entirely:—

1. Prove that, in the round rail fitted, without play, to a concave tire, the whole surface of the tire, except a single line, is not *rubbing*, instead of rolling.—2. Prove that, with inclined spokes, the point at which the centre of gravity of a carriage overhangs the rail is removed of all the distance of the inclination. (Use fig. 4 of Mr. Greenhow's pamphlet.)

No phrases are wanted to solve these problems; and unless they appear in a *geometrical* form, as any problem of Euclid, in a following Number of the *Mining Journal*, we hereby declare that we consider the whole of the publications in favour of the Geometrical Railway as a *puff*, and retire from a question which is no more a scientific one. N. A. BURNIER.

Dufour's-place, Sept. 16.

P.S.—We beg to inform Mr. Weston, that the power per square inch, necessary to raise from 15 to 20 in., and from 10 to 20 in., any exhausted reservoir is, in the first case, 7·3 lbs. at the beginning, and 9·73 at the end; in the second, is 4·27 at the beginning, and 9·73 at the end—therefrom, the two averages 8·65 and 7, quite different from those of Mr. Weston. We did not calculate any average, because no means were indicated for causing a variation in the effect of the working engine, and we allowed 0·48 lb. per inch for the saving obtained in cutting off the stroke, which is quite contestable and uncertain. Our calculations were thus all *perfectly right*; and we trust Mr. Weston will, by dropping such a *futile subject*, avoid any further mistake.—The accusation of being *little scrupulous in departing from truth*, is in any country, amongst any men, *educated* or *uneducated*, a *rough personality*; but we accept Mr. Weston's intentions as a correction to his words.

FURTHER IMPROVEMENTS IN WORKING ATMOSPHERIC RAILWAYS.

SIR,—By the present arrangement of the Atmospheric Railway System, the person to whom the management of the piston carriage is entrusted has but little, or no, control over the speed, or velocity, of the train: this I consider a very essential point, as it affects the *safety* of the system; and, having devoted considerable time to the discovery of a remedy against this defect, will, by your permission, lay before your readers a description of an arrangement, which, to my mind, will afford the means of almost complete control. The plan is simple, and requires no very elaborate explanation to render it intelligible—it is as follows: the piston carriage should likewise be a locomotive-atmospheric engine, and also a passenger carriage; the horizontal shaft of the tube piston should be hollow; the coulter must likewise be hollow, and attached to a pipe leading to the cylinders of the engine; another pipe should communicate with the open air: these to constitute alternately, as the case may require, the induction and eduction pipes. Arrangement should also be made, whereby an elastic tube could with great facility be attached to, or detached from, the locomotive; the other end of this elastic, or it may be a jointed iron tube, to be attached to the main, or pipe, leading to the vacuum reservoirs, or air-pumps, as the case may be: by this latter arrangement the work at the stations, and various other work occasionally to be done on a line of railway, could be performed quite as well as by a steam locomotive; by the former arrangment the travelling power of a train may be increased or diminished, just as circumstances might determine—this result will be obtained by working the engine with, or in opposition to, the motion of the train. To put the case in as clear a light as we can, we will suppose that the railway is to be worked at one-half vacuum, and that the cylinder of the engine was of such dimensions, as, by cutting off the supply at one-half stroke, would give the locomotive a power exactly equal to that exerted on the piston in the tube; if the rarefaction of the air in the tube was higher or lower, the supply to be cut off sooner or later, as the case might be. It is not necessary for our present purpose to inquire, what the exact size of the cylinders would be; that, however, can, when requisite, easily be determined: if working at half vacuum, their capacity would be equal to the length of tube travelled over in about two-thirds of a revolution of the wheels of the engine; and, if working at two-thirds vacuum, their capacity would be equal to that of the tube travelled over in about seven-eighths of a revolution of the wheels; however, if they were of the right dimensions to give the engine, when using the air expansively at the same degree as that in the tube in front of the piston, a power exactly equal to that exerted on the piston, then they would likewise be of the right dimensions to give the engine, when working in opposition to the motion of the train, a power of resistance exactly corresponding to the impelling force of the piston, which would in effect be equivalent to cutting off the entire power, or destroying the vacuum; but, instead of the vacuum being destroyed, it would be increased.

Suppose, now, that we want to run a train from one station to another, the first thing to be done will be to attach the requisite number of carriages to the engine—attach also the elastic tube—and by letting the rarefied air act on the exhaust side of the piston of the engine, bring the train up in front of the station. When the passengers had taken their places, and the train was ready for starting, it would be put in motion by the same means. As soon as the piston had entered the tube, the elastic pipe should be disconnected: this could be done by the engine-driver, or it might be self-acting—that is, it might be made to detach itself at the proper time; and, by the closing of a valve at the end of the tube, and also over the hole communicating with the cylinder of the engine, any loss of power would be prevented. When the piston had entered the tube, the rarefied air might be again allowed to act on the exhaust side of the piston of the engine until the requisite speed had been obtained, when the communication between the tube and the engine should be closed, and the train should be driven by the power exerted on the piston in the tube.

Suppose that, shortly after starting, we come to a declivity, where, if no means were used to prevent it, the train would, by the combined influence of the vacuum, and its own gravity, acquire a velocity that would be dangerous. To prevent this, we shift the valves, and make the exhaust side of the piston of the engine to communicate with the open air. However, in order to secure the dynamic value of the rarefied air, the pipe (which has now become the egress pipe) must be provided with a flap valve, to prevent air from entering the cylinder on the exhaust side of the piston, and allow that in the cylinder to escape as soon as it resumes a density equal to the open air. The engine working in this manner becomes an air-pump, and extracts at each stroke more air than would fill the length of the tube travelled over during that stroke, at the same degree of rarefaction. By this arrangement, the power of the train will be *increased* by the very same means by which it will be *destroyed*. The peculiar characteristics of this mode of increasing or decreasing the speed of a train, are its simplicity, efficiency, and economy. There is one thing which I had almost forgot to mention—which is, that in order that the engine should act properly, it must have *weight*; but I should not propose a *dead* weight, such as is carried by the steam locomotives, but a living and profitable weight; and for this purpose would recommend that the carriage containing the engine and piston should be made larger than usual, with comfortable sittings, and a low charge, so as to secure a full house for the benefit of the engine, which, by its beautiful and perfectly harmless movements, could not fail to excite the admiration of its guests. This engine could at any instant be employed, either as a brake, or as an auxiliary power. A good deal has been said about stopping a locomotive train in less time than an atmospheric train could be stopped; but, by the arrangement described above, the atmospheric train may be stopped in much less time than the locomotive, as it would not be encumbered with so much dead weight, by from 10 to 15 tons, or perhaps more,—and the time in which either a locomotive or an atmospheric train may be stopped, other circumstances being the same, and by the arrangement suggested, they would be determined by their respective weights and velocities; if then the atmospheric train had one-third less weight than the locomotive, the velocity being the same, it could be stopped in one-third less time; and if the velocity of the former was one-third greater than that of the latter, or as 45 to 30, it could be stopped in the same time, by applying an equal power; and the engine, of which I have given a rough sketch, can, if its weight is sufficient, be made to exert a retarding power double that of the impelling power—so that, with regard to stopping an atmospheric train, or controlling its velocity, there will be no difficulty whatever; and having obtained a perfect control over the velocity of the atmospheric train, it has in this respect become safer than the locomotive; and by the time what is known has been told, the locomotive engine will be numbered amongst the things that were. The time for the universal application of the atmospheric principle is nigh at hand. "Discussion will not retard its progress, and opposition will only accelerate its onward motion."

I perceive, by your Number for Saturday last, that a knight of the honourable order of *inclined spokes* has been amusing himself, by throwing stones at our "skulls." I have no wish to deprive him of his innocent sport,—and, consequently, shall not put mine behind the screen.

Sept. 14. J. WESTON.

SUGGESTED QUESTIONS ON THE PROPOSED RAILWAYS AND PORTS OF GIJON AND AVILES, ASTURIAS, SPAIN.

SIR,—I follow up my promise, by handing, for insertion in your Journal, a few questions; if satisfactory answers are given, then all doubt will be removed; but, if not perfectly satisfactory, it may be well for me to repeat to the shareholders what I said in one of my communications on these serious questions—*i. e.*, "Repent what is past—avoid what is to come."—I am an interested party; and I, therefore, call attention to the subject, through your independent Journal—sincerely believing that some good will result from investigation; and if good does result, I shall be truly happy. —NOAH COWARD: *Gijon, Asturias, Spain, Sept.* 11.

What distance is it, up to Aviles, by the river?
What is the average navigable depth of the river, up to Aviles?
What is the average navigable width of the river, up to Aviles?
What depth of water is there on the Aviles bar?
What is the nature, and where is anchoring ground to be found?
What are the prevailing winds that effect the entrance into the river, and the going out of the river, from the end of February to the end of October, and from the 1st of November to the 1st of March?
Are there any quays, wharfs, storehouses, or accommodations at Aviles? and if not, what will be the cost of building the same, and what time will be required?
What is the average number of vessels that can come in and go out, daily, from Aviles, throughout the year?
What will be the average tonnage of such vessels?
What is, and what will be, the price of freights from Aviles to the south of Spain, with the Spanish flag, and the like from Gijon?
What difference of expense between the Spanish and foreign flag, in the ports of Spain?
Supposing Aviles can be made a safe and commodious port, what will be the relative cost to a vessel running up to Aviles, or running direct to Gijon?
What produce can be imported, or exported, at Aviles, that could not be more advantageously imported, or exported, at Gijon?
Is not one of the largest, and one of the best, Asturian coal-fields nearer to Gijon, by 10 miles, than Mieres is to Aviles?
Does not Gijon contain five times more inhabitants than Aviles; and is it not nearer to Oviedo than Aviles?
Is it natural to expect, the wealth and influence of Gijon, *to give up its established trade to Aviles?*
What is the distance, from the church, at Mieres, by the proposed railway to Aviles?
What price is calculated, per mile, for a ton of coals (English weight) by the said railway to Aviles?
What is the calculated selling price of an English ton of coals, if taken to the south of Spain from Aviles?
What will be the relative costs and advantages of the railway from the Sama coal-fields to Gijon, as compared with the costs and advantages of the railway from Mieres coal-fields to Aviles?
What number of shares are taken in the proposed Aviles Railway by parties living in, or connected with, the Asturias, or the north of Spain?
What is the estimated cost of the whole line of railway, &c., from Mieres to Aviles, and to Gijon, and what time to complete?
What returns are calculated on from passengers, and what returns from the carriage of coals and merchandize.
What average per centage on paid-up capital is calculated on for the first five years after completion to Aviles?
Is Aviles more than 12 miles from Gijon? and is it reasonable to calculate on the necessity of two ports and two railways in so small a distance, particularly on the north coast of Spain?
What is the insurance of vessels, of equal tonnage, to and from Aviles, and to and from Gijon, to Malaga or Barcelona?

THE GREAT WESTERN AND FALMOUTH JUNCTION RAILWAY.

SIR,—Being a creditor of this company—if any *company* there is—I take the liberty to apply to you, who are supposed to know a great deal on the subject of railways and mines, for a little information, which I have sought elsewhere in vain. When I was first called on by an officer of the company or *committee*, he handed me a printed prospectus, with a very respectable list of "provisional committeemen," to assure me that I might safely connect myself with the *concern*. As I was persuaded at the time that the committee were liable for the debts contracted by their agents in their service, I readily consented to become a creditor, especially as the terms were somewhat favourable, and *prompt payment* promised. As soon as my engagement with the said officer was completed, I called upon him for the fulfilment of his voluntary promise—viz.: for payment—when, to my astonishment, he informed me that, as the *shares were not yet allotted*, no money could be had! This was in the latter part of November last. From the very numerous applications for shares which, I understood from the aforesaid individual, were made in an early stage of the railway mania, I had concluded that not only were the shares allotted, but the deposits thereon paid up; I did not think that the committee would incur on themselves such an amount of responsibility, but in this I was deceived—and, perhaps, they are deceived, too, or rather *undeceived!* The history of this company, and their proceedings, are, doubtless, fresh in your memory—for I recollect that, in your Journal, you advocated the scheme; and, certainly, as a *direct* line of communication between Exeter and Falmouth, it is the best, perhaps, hitherto projected; but it cannot now be carried out, owing to the success of the Cornwall Railway Bill. Without any further prelude, I beg to ask the following questions, and shall feel obliged to you, or to your correspondents, for an early answer thereto:—Was there any *managing committee* selected from the provisional committee, or otherwise? If so, *who* are they? Where did they *meet?* Did this committee *really* manage, or was it merely nominal? If *no* managing committee, did the provisional committee act?—and where did they meet for the transaction of business? Can you inform me whether the committee have raised a *fund*, whereout to satisfy the numerous creditors? You will perceive that I want information preparatory to an application for payment, which I shall seek to *enforce*, if necessary, at the proper time. A CREDITOR.

Bodmin, Sept. 21.

ELECTRIC TELEGRAPH CHARGES—SOUTH EASTERN RAILWAY.

SIR,—The electric telegraph of the South Eastern Railway Company is now open to the public, and individuals in London may hold converse with a friend in Tonbridge, Maidstone, Folkestone, Canterbury, Dover, or Ramsgate. This interesting and rapid means of communication has not been offered to the public with that spirit of liberality which ought to characterise the present age. The directors, with that grasping and mercenary feeling which has characterised their proceedings of late, more especially in a large increase in their fares, have set prices upon these telegraphic communications which will entirely prevent its use; and thus, by their covetousness, defeat their own purposes and interests: 5s. for a message of less than 20 words to Tonbridge, 7s. 6d. to Maidstone, 10s. 6d. to Canterbury and Folkestone, 11s. to Dover, and 12s. 6d. to Ramsgate. Who, I wonder, Mr. Editor, would pay such a price for a few words' conveyance, when he can send a sheet of foolscap fully written, by the post, for one penny, and receive as long an answer in return for the same price,—or when, for the amount they charge, he could run there and back in the company's own trains, and see his friends or correspondents vis-a-vis, with the ride into the bargain? How different is this to the charges on the continent! A small paragraph in last week's Journal informs us, that the telegraph on the Brussels and Antwerp line is open, and the charge is *fifty cents.* (about 5d.)! The fact is, the South Eastern Company think they have the whole of Kent to themselves, and can do as they please with the public; but I would advise them to be wise and liberal betimes, or let them beware of the result—these are not times for the support of an injurious monopoly.—GALVANUS: *Piccadilly, Sept.* 16.

A CASE OF ULCERATED BAD LEGS CURED BY HOLLOWAY'S OINTMENT AND PILLS.—Extract of a letter from Mr. W. Kemp, of 37, William-street, Edinburgh, dated Sept. 10, 1846:—To Professor Holloway.—Sir,—I beg to inform you that for five years I suffered dreadfully from a great number of ulcers on both my legs, during which time I was attended by several medical men, besides trying various remedies recommended by my friends; and I also had advice from Minto-house, but all to no purpose. I am, however, truly happy to say I have got my legs as well as ever they were in my life by using your pills and ointment.—(Signed) WILLIAM KEMP."—These medicines are sold by all druggists, and at Professor Holloway's establishment, 244 Strand, London.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—The lode in the 24 fm. level, from engine-shaft, is without alteration—still thinly mixed with lead. In the rise, in the back of the 24 fm. level, the lode is smaller, but the ore in it is a little increased—still producing little saving work. The 18 fm. level end west produces 2 tons per fm.; in the western winze the lode produces about 1½ ton per fm. The end east of Nangle's shaft is in a slide; the end west of Nangle's shaft produces 2 tons per fm. The tribute pitches look well; we have discovered nothing of importance at Clon Mines.—T. ANGOVE: Sept. 18.

BEDFORD UNITED.—At Wheal Marquis, the lode in the 80 fm. level east is 2 ft. wide, composed of spar, mundic, and ore. The lode in the 70 fm. level east is 2 ft. wide, good work; in the stopes, in the bottom of this level, the lode is 2 ft. wide, and worth 20*l.* per fm. At Ding Dong, there is no alteration in the past week. At Wheal Tavistock, the lode in Phillips's engine-shaft is improved, being 2 ft. wide, producing some good saving work—a very kindly lode. The lode in the 47 fm. level west is 18 in. wide, composed of spar, mundic, and ore. In the 35 fm. level east the lode is 2 ft. wide, saving work. There is no alteration in the south engine-shaft, or the adit level east, since last report.—JAMES PHILLIPS: Sept. 22.

CALLINGTON.—Johnson's engine-shaft is down 11½ fms. below the 112 fm. level; at this level, driving south, we are quite through Johnson's lode; on the west side of the lead course, it shows the same promising indications, intermixed with tin and copper ores; the lead lode has not been taken down; in the north end we are opening tribute ground. In the 100 fm. level, driving south, we are laying open ground that will set at a moderate tribute; in the north end, the lode has not been taken down. In the 90 fm. level north the lode is 9 in. big, good saving work. In the 80 fm. level the lode is producing silver-lead ores. At the north mine, in the 90 fm. level north, the lode has not been taken down; in the south end we are opening good tribute ground; in the winze, sinking upon this level, the lode is 8 in. big, worth 20*l.* per fm. In the 80 fm. level north the ground is a little improved, with a rich branch of silver-lead ores; in the south end no alteration has taken place. At Kellybray, the lode in the shaft is 4 ft. big, composed of a dark brown gossan, intermixed with quartz, mundic, and occasional spots of copper.—J. T. PHILLIPS: Sept. 21.

CUBERT SILVER-LEAD.—The ground in the engine-shaft is a little more favourable for sinking, than it has been for some time past. At the 25 fm. level, driving east, the lode is about 15 in. wide, composed of soft spar, mundic, and stones of lead, very promising—at this level, going west, we are still in a very hard elvan lode, rich, worth 2 tons of ore per fm. At the 12 fm. level, driving west, in the east of Falmouth's land, the lode at present is unproductive; going east at this level, lode about 18 in. wide, and saving work—a promising level, indeed. The tribute pitches, on the whole, we consider, are looking pretty favourable.—R. ROWE: Sept. 15.

EAST TAMAR CONSOLS.—At Whitson, in the 54 fathom cross-cut, from Hitchins's shaft, we have cut the lode; it is about 2 ft. wide, producing good stones of silver-lead ores. The 46 and 56 fm. levels, north of Hitchins's shaft, are still in disordered ground, and I thought it advisable to suspend them for the present, as the levels coming south from Lockeridge are in the same channel of ground. In the 46 fm. level south the lode is just the same as last week's report. At Furzehill, Harrison's shaft is sunk 6 fms. 5 ft. below the 30 fm. level, the lode is 3 ft. wide, producing good work. In the 30 fm. level, south of Harrison's shaft, the lode is 2 ft. wide, producing good stones of silver-lead ores. At Caroline's, in the 10 fm. level south, the lode is 2 ft. wide, producing good work.—B. ROBINS: Sept. 22.

GUNNIS LAKE.—I beg to acquaint you, that the lode in the 12 fm. level, west of Bailey's engine-shaft, is 2½ ft. wide, composed of fine gossan, spar, peach, with spots of copper ore in places. The sumpmen have not yet completed the plat.—W. RICHARDS: Sept. 22.

GWINEAR CONSOLS.—I beg to hand you the following report of this mine. We have cleared a shaft on the great south lode 12 fms. deep to adit and discovered 2 lodes—one of them, 12 ft. wide, producing very fine stones o. tin, samples of which I send you herewith, and the poorer part of this lode will pay well for returning; the other lode is 5 ft. wide, composed chiefly of gossan and spar, and equally productive for tin. We have got about 20 tons of copper ore from the north lodes.—HUGH STEPHENS: Sept. 22.

HAWKMOOR.—In the 15 fm. level, east of Hitchins's shaft, the lode is 2½ ft. wide, composed of spar and capel, with stones of ore in places.—P. RICHARDS: Sept. 22.

HOLMBUSH.—I beg to inform you, we find it necessary, as well as judicious, to divide the engine-shaft from the whim shaft, from the 110 to the 120 fm. level, in order to draw the stuff from that level by the steam whim, instead of drawing it to the 110 by manual labour, which is very expensive;—hence the delay in not finishing the trip plat so soon. On Friday next, we purpose fixing one of our new 14 in. plungers, at the 110 fm. level, to supersede the 12 inch now at work,—and then fork the water against Monday morning, that no one shall be hindered, either on tutwork or tribute; also, the two following Fridays do the same, until the whole is completed. The last Friday of the two, Mr. West will put in the new cylinder cover—at the same time, the last new plunger is being fixed. The ground in the 120 fm. level, south of Hitchins's shaft, is still favourable for driving; in the same level, driving east, the lode is 12 in. wide, and worth 5*l.* per fm.; the lode in the 120 fm. level, west from the bottom of the winze, is 18 in. wide, and worth 8*l.* per fm.,—ground moderate, set at 6*l.* 10s. per fm. We are still engaged in clearing out the 110 fathom level, east of Hitchins's shaft (on south part); in the 110 fathom level, west of Hitchins's shaft (or north part), the lode is 10 in. wide, composed of mundic spar, and spots of ore; in the same level, driving south on the flookan part of lead lode, we have broke, during the week, some large stones of rich copper ore, as well as some good stones of lead; the ground is favourable for driving. The lode in the winze sinking below the 100 fm. level (on the north part) is 10 in. wide, and worth 8*l.* per fm.; in the same level, driving north, the lead lode is 3½ ft. wide, producing stones and spots of lead occasionally; the lode in the rise, in the back of this level, is 3½ feet wide, producing stones of lead, and opening tribute ground. We expect to make the communication to the 90 fm. level in the course of next week, when we shall resume driving the 100 fm. level south; one of the two pitches in the back of this level, on the lead course, is still producing some very good lead—the other is not looking quite so well.—W. LEAN: Sept. 22.

LEWIS.—I believe Captain Noell has sent you his report of these mines; yet, as there has been an improvement in one or two of the levels since, I beg to hand you this as the latest intelligence. The lode in the 60 fm. level east is 3 ft. wide, tinny throughout, worth about 50*l.* per fm.; the back of this level will work at 9s. or 10s. from 20s.; the west end, at this level, is yielding a small quantity of tin, but not to value just now; in this end, we have had occasional stones of good quality copper ore. The lode in the 50 end east is 2 ft. wide, worth about 6*l.* per fm. for tin; one pitch, in the back of this level, is now working at 1s. 6d. tribute; the west end, at this level, is at present unproductive—it appears that, to the west of the shaft for several fathoms, we have an unproductive piece of ground at every level—the strata being in a very disordered state, with large floors of hard spar or quartz passing through it. The lode in the 40 end east is 2 ft. wide, worth about 50s. per fm.; the back, over this end, will work at 8s. or 9s. tribute; the 40 west has been suspended for some time (that is, on the north lode); we have driven a cross-cut to south lode, which we have just now cut, and find it about 15 in. wide, worth about 4*l.* per fm.; the back of this level will work at a moderate tribute. The lode in the 30 end east is 18 in. wide, worth 40s. per fm. for tin. The lode in the 20 end east will also produce tinstuff; but we have done but little in this end for some time, as we have such an accumulation of tinstuff, which we cannot return till we get the steam stamps to work. The masons commenced building the engine-house on Monday, and no time shall be lost about it till complete. The north lode (which was called the Wheal Bush lode by former workers), is, I consider, a very promising lode. We have sunk the Bush shaft on it 10 fms. or 11 fms., and have raised some good tinstuff from it; now at the 12 fm. level from surface we are opening a plat, and shall then drive east and west to open ground for tribute; we hope to cut this lode at the 20 fm. level in two or three months. I calculate highly on this lode, as it is in a firm settled strata, and a good size. We are driving a cross-cut south at the 30 fm. level to intersect a south lode, which has not yet been seen below the adit. The Bosworgie Town lode, still further south, must have some attention by-and-bye. From the number of lodes in the sett, which is very extensive, the favourable ground about the lodes, and the situation, I am of opinion that Wheal Nutt will yet make a good mine to the shareholders; so soon as we get the steam stamps to work, we can raise much more tinstuff than we are now, and that at a tribute that will leave profit.—WILLIAM PAUL: Sept. 23.

MENDIP HILLS.—During the past week, the men belonging to the 25 fm. level, north of Barwell's shaft, have been employed removing penthouse, at the 14 fm. level, dividing the shaft from this level to bottom, fixing footway, &c.—this work being accomplished, they have again resumed driving the end; the lode is now about 4 ft. wide, and has much the same appearance as for several fathoms past. At the 20 fm. level, north of Somer's shaft, the lode is 4 ft. wide, principally composed of quartz, with carbonate of lime—ground much harder for driving. At Stainsby's, the men are progressing favourably with the plat. We have taken several good stones of lead from this place since my last report, which continue to strengthen my opinion, that we shall in depth have a productive lode. In the 20 fm. cross-cut, new shaft, the ground is not quite so hard for driving as it has been.—F. C. HARPUR: Sept. 21.

SILVER VALLEY.—The lode in the 40 fm. level west is 4 ft. wide, producing some good tin work, and still assuming a very promising appearance. The south underlaying vein, spoken of in our last report, on which we are extending the level east, is fast approaching the south part, or tin lode; should they retain their respective bearings, they will be found united in course of driving a few feet further east, at which point we look for favourable results. The lode in the 80 fm. level west is split into two parts, and is, consequently, disordered; the stopes in this level are producing some good work. At the 20, the lode in the western end is 4 ft. wide, containing a little tin and yellow copper ore of good quality; the pitches are producing a fair quantity of tin stuff, and the men are earning good wages. The quantity of tin stuff raised from the 20 fm. level last month (August), by 6 men, was 25 tons 16 cwts. 3 qrs., which produced by assay 1 ton 12 cwts. of black tin, value 85*l.* We have now 12 men working on tribute and stoping, and have opened sufficient ground to fix 24 to 30 men, who will, no doubt, raise a corresponding increase and value with the above. At the silver mine, the lode in the 10 fm. level east is 4 ft. wide, underlaying 4 ft. in a fm. south, showing indications of its being near a cross vein; we did not observe any silver or lead in it to-day. The western shaft is cleared and secured 10 fms. The lode in the level, driving west from Oaks's shaft, is 3½ ft. wide, 1 ft. of which is composed almost wholly of gossan, the remainder killas, traversed by a vein of carbonate of iron of a promising description. The lode at Wheal Sisters is 3 ft. wide, consisting of gossan, quartz, and flookan, containing a little black oxide of copper and spots of silver. We have taken samples for assay this day, and the result shall be made known to you in our next report.—J. PRINCE: Sept. 21.

SOUTH MARIA.—Our machinery is so near finished, that I hope to see it work next week. It has been viewed by the best of judges, and the greatest of miners, who pronounce it effectual, and adequate to the work intended to perform. I beg to invite the inspection of all scientific men, as I have no doubt of its keeping the water a sufficient depth, to find South Maria what even the prejudiced believe her to be—viz., a rich mine. I have an increasing demand for shares, which are from 4*l.* to 5*l.* I have no doubt but the new lode, cut so good in the wheel-pit, is a caunter, and underlays south-west, running north-west across our 5 east and west lodes, already cut. The junctions, formed by the underlay and crossings of this lode, in my opinion, add much to the value of the mine.—JAMES CHANHALL: Sept. 24.

TINCROFT.—I have been underground all through the north mine this day, and beg to say, how things are looking. The lode in the 90 fm. level east is not looking quite so well as yesterday, but is still a descent lode, worth about 10*l.* per fm.; the west end is now in the cross-course, and we shall have to drive south to find the lode beyond. The lode in the 80 east is 3 ft. wide, 8 in. pretty good ore; the 80 west, just as stated last night. The lode in the 70 east is very large—we are not carrying the whole of it; the north part for 2 ft. wide is rich for tin, worth 40*l.* per fm.; the 70 west is worth about 6*l.* per fm.; other places in this part, just as stated last night. Capt. James reports to me, that the 142 is looking excellent for tin, as are the stopes, east from the shaft; and two or three of the pitches are looking better than yesterday. I have had Capt. James Oats here to-day, to sample about 700 sacks of tinstuff, which I hope to sell him to-morrow evening; we are, on the whole, looking very cheerful, and doing the best we can.—W. PAUL: Sept. 23.

TRELEIGH CONSOLS.—In the rise, above the 100 fm. level, east of Christoe, the lode is about 2 ft. wide, producing stones of ore; in the 100, west of ditto, driving on the west part of the cross-course, which is about 10 in. wide, no mineral. In the 90, west of ditto, the lode is very small, no ore; in the winze, below the 90 east, the lode is about 20 in. wide, worth 6*l.* per fm. Garden's shaft, below the 90, is sinking in the country; in the 90, east of ditto, the lode is 2 ft. wide, but very little ore worth saving; in the 90, west of ditto, the lode is about 2 ft. wide, worth 10*l.* per fm. In the 70, west of Goodfortune, the part of the lode that we are driving on is about 4 ft. wide, more promising, worth 6*l.* per fm. In the 60, west of Symons's, the lode is 2½ ft. wide, producing stones of ore. In the 50 cross-cut north, the ground much as usual, with small branches of ore crossing the end. In the 44, west of ditto, the lode is about 1 ft. wide, no mineral; in the adit, west of ditto, the lode is about 10 in. wide, with a small quantity of ore; the west shaft is sinking in the country. The 34, west of Symons's, is suspended for the present, and the men put in the 44 fm. level. Our object in driving the 44 fm. level is, in the back of the 50 fm. level we have a large orey lode, which is now working at 6s. tribute all west of the 44 fm. level end; and it is likely, from the appearance of it, to make up before this end—therefore, we hope to have an improvement in the 44 ere long.—WILLIAM SYMONS: Sept. 19.

UNITED HILLS.—At the 90 fm. level, the lode in the eastern end is 3 ft. wide, coarse in quality; western end, lode 2 ft. wide, good ore; in the stopes the lode is 18 in. wide, ore of good quality. In the 80 fm. level, eastern end, the lode is 3½ ft. wide, producing but a small quantity of ore; driving north, from the diagonal shaft, no alteration for the past week. In the 70 fm. level, east of eastern shaft, the lode is 2½ ft. wide, 20 in. good ore. We are still driving north, west of James's shaft, at this level; the lode in the stopes, bottom of this level, east of Williams's shaft, is 2½ ft. wide, ore of average quality. In the 60 fm. level, the lode is 2 ft. wide, orey throughout, of low quality. In the 50 fm. level, ground much the same for driving as last reported; in the shallow adit, lode 3½ ft. wide, orey throughout, saving work. At Wheal Charles, in the 50 fm. level, in this end, the lode is 2 ft. wide, producing stones of ore. In the 40 fm. level, the lode is 3½ ft. wide, 2½ ft. ore of fair quality. At Wheal Sparrow, in the 40 fm. level, east of winze, the lode is 2½ ft. wide, coarse in quality; west of Richards's shaft, the lode is 18 in. wide, producing a small quantity of ore. In the 30 fm. level the lode is 2½ ft. wide, 18 in. ore of fair quality.—T. TREVENEN; R. WILLIAMS: Sept. 22.

WEST WHEAL JEWEL.—There is no lode taken down on Wheal Jewel lode, in any level in this mine, in the past week. In the 12 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is worth 30*l.* per fm.; in the winze in the 12 fm. level, east of Quarry shaft, on the same lode, the lode is worth 10*l.* per fm.; in the winze in the bottom of the deep adit, west of Quarry shaft, on the same lode, the lode is worth 12*l.* per fm. In the winze in the bottom of the main adit, west of old sump shaft, on the same lode, the lode is worth 3*l.* per fm., ground very hard for sinking, having much water.—R. JOHNS.

WHEAL MARY PENTUAN.—On Saturday last, we set a shaft to sink, for the purpose of intersecting the main lode, which we expect to see about 4 fms. deep; this lode was discovered by a party who were streaming the valley for tin; the lode is from 5 to 6 ft. wide, composed of quartz, mundic, and large lumps of rich copper ore. This lode can be worked by a water-wheel, of 30 ft. diameter, to a considerable depth; it has been traced through the wood several hundreds of fathoms, presenting a beautiful gossan, interspersed with rich spots of grey and yellow ore. To the south of the main lode there are two other lodes, with strong indications of copper ore. The adit can be driven on the course of these lodes to the depth of 40 fms., from which large quantities of ore may be expected.—J. CHYNOWETH: Sept. 21.

WHEAL TREHANE.—At the request of the shareholders, at a special general meeting, held at Liskeard, on Tuesday, the 8th inst., I have carefully inspected this mine; and, having surveyed the underground workings, and laid down the line of bearings on the surface, I beg to hand you the following as the result of my observations:—The general appearances of the slate from the explorations of the pit sunk at the southern extremity of the sett—the peculiar composition of the gossan—the presence of peroxide of manganese, with fragments of sulphate of barytes—leave not a doubt on my mind, but that the lode in this pit is a continuation of that of Wheal Trelawney, as also the one you have cut at a deeper level, and to which I shall subsequently call your attention. The shaft by which the operations are now being carried on, was commenced for the purpose of intersecting the north and south lode at a given depth. It was sunk about 2 fms., at which point a lode was discovered bearing nearly east and west, first underlying northerly; but it was found to alter its underlay as the shaft was sunk, and at 8 fms. deep, passed out underlying south; it is about 3 ft. wide, composed mostly of hard coarse quartz, with a yellowish slate approaching sandstone, and irregular fragments of gossan, containing phosphate and carbonate of lead, one stone of which I assayed, produced 46 per cent. of lead, but it was not rich in silver. No further notice having been taken of the lode at this depth, the shaft was continued sinking to a 20 fm. level, from the bottom of which a cross-cut was extended west on a slide for several fathoms, for the object of cutting the north and south lode; but not being able to accomplish this, another cross-cut was commenced, and driven 8 fms. nearly south, to intersect the east and west lode, which has not, however, been seen below the 10 fm. level. The slide just spoken of (underlying nearly 8 ft. in a fathom northerly), has evidently divided, and thrown it; but whether it is proverbially an upthrow or a downthrow is not yet proved, nor is the lode sufficiently developed to enable me to decide; judging, however, by the confused superincumbent strata, I am inclined to believe it is a downthrow. At the point of the cross-cut, to which I have just adverted, the lead lode was discovered, and a level has been driven on course of it 17 fms. 4 ft.; it is composed of veins of light hornstone, and compact quartz, with alternate irregular small veins of decomposing felspar; these are accompanied by quartz of exceeding friability, and fluate of lime, associated with amorphous masses of incrusted galena, and crystals of carbonate of lead. The lode in the south end producing about 1½ tons, and worth 24*l.* per fm.; the north end, however, contains but little lead, owing to its having been driven a few feet only through the slide previously spoken of, but the lode will, no doubt, be found orey at no great distance from the slidy, and consequently disordered, ground. It has been productive close to the slide, and for a length of about 15 fms., from which about 11 tons of ore have been raised. The bearing of the lode so far explored is 30½° east of north, and west of south, and its underlie 1 ft. 6 in. in a fathom easterly, and from these data, I have taken my bearings on the surface as follows—viz.: bearing of cross-cut at the 20, 6° east of south, length 8 fms. 4 ft. 3 in., bearing of lode 30½° east of north—making the sett through which the lode traverses at the 20 fm. level, 66 fms. 4 ft. horizontally. For 40 fms. in length, it will run 60 fms., and in the remainder 26 fms. 4 ft., at a depth of 98 fms. below the surface. The greatest width of the ground east of the lode at the 20 fm. level, is 120 ft.—north of which, to the extreme boundary, it averages 117 ft.; but south it runs to a point—thus making the ground about 40 fms. in length, an average breadth of 60 ft. As no steam-engine, or any hydraulic power, will be required to drain this piece of ground, the sett can be worked inexpensively, and the operations might be carried on somewhat differently to those in mines of indefinite limits. The shaft having been sunk on the wrong side of the lode, it would not, in my opinion, be prudent to sink it 10 fms. deeper, not only because the cross-drift at that depth would be longer than at the 20, but because the lode could not even then be taken away to the extent of the south boundary by virtue of this shaft; it would, therefore, be better to rise on course of the lode at the 20, nearly opposite the shaft, to effect a communication—whilst men should be employed in sinking immediately below, to reach a 30 fm. level—all of which might be accomplished at a much less expense, and in about half the time, than sinking the shaft 10 fms. deeper, and cross-cutting, owing to the friability of the quartz, and other loose fragmentary deposits, in the lode. Moreover all the south ground might thus be taken away, and one would at once be brought to surface, and speedy returns made. I must not, however, withhold from you that a horse whim shaft will eventually be required at the point marked across 120 ft., to develope the lode at the greatest depth, and to explore the ground to the northernmost extent of the boundary. This shaft alone would command the whole sett, and if you are not in want of immediate large returns, it would be as well to dispense with every other. Much attention should be paid to, and great care taking in, breaking and selecting the ore underground, as the scarcity of surface water precludes the possibility of dressing it in a proper manner, when mixed with a large proportion of its matrix, and the contiguous softish slate. With regard to the dressing department, I would recommend you to make the floors on the low ground for the reasons before assigned, and to prepare the lead for market as previously described to you.—J. PRINCE: Sept. 17.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINES.—*Gongo Soco, July 3.*—The gold troop returned from Rio on the 23d ult., in good order. Since my last, the mine has undergone no alteration worthy of remark—but four miners now remain at Catta Preta; those who have returned are employed in cross-cutting from Allcock's and Duval's shafts, at the 14 fm. level, with a hope of intersecting, in the large extent of ground unexplored on the south, the continuation of the new vein, near Harris's shaft; this vein daily shows traces of gold and "hat caps" of work for the washing-house; but the hopes we had entertained of its richness have hitherto been disappointed.—W. J. HENWOOD.

P.S.—At the moment of closing this, we have broken a box of work for the washing-house—thought to contain 5 lbs. of gold, from the back of the shallow level, east of Bray's shaft, on the new vein; more is still in sight, but it is not rich at present. There is plenty of whole ground, should the gold continue; we hope to get more during the day, and, should our hopes be realised, I will write again on the 8th inst. The gold workings come down to the 30th June—making a total, for the half-year, of 178 lbs. 9 ozs. 11 dwts., being an increase over the preceding half-year of about 30 lbs. weight of gold.

Gold Workings—From the 1st to 22d July, 15 lbs. 10 ozs. 14 dwts.

ST. JOHN DEL REY MINES.—*Morro Velho, July 8.*—Produce for June, 12,014 oitavas; ditto from Cata Branca, 432½ oits.; ditto from Teixos, 87½ oits.; total, 12,484 oits. = 119,922 lbs. troy. The 12,014 oits. are from 2757·6 tons of ore, 4·356 oits. per ton; 276 tons of ore were rejected. The standard per ton has descended a little since last month, it would appear in consequence of a greater admixture of West Cachoeira ores. The United Mines alone have yielded 4·737 oits. per ton. It is bootless endeavouring to explain these monthly variations of standard. It appears that the lower rate of produce is mainly attributable to the inefficient state of the Lyon's stamps, which is being eased in the weight of the stamp heads for the present, lest there should be a break down before we are prepared with the new work for repairing her. Everything is being got ready, and when it is ready, heavier heads shall be put to her; then, if the axle choose to break, we shall turn to and put in the new work, which ought, I think, to be completed in one month. Capt. Treloar is of opinion that the inconvenience caused by the weak ground in the Quebra Panella will not make any difference, or very little, in the supply of ore, but not being very well acquainted with the ground which he is now about working, in the western part of the United Mines, he thought it best to say nothing about it; I, however, put the question to him, and the above is his opinion—in fact, any deficiency of supply cannot arise from lack of lode. The ground in the East Cachoeira is down, and the sump is well commenced; this is a good work accomplished, which will now gradually supply us with more stopes. Cost for June, rs. 28,445 002.

NATIONAL BRAZILIAN MINES.—*Cocaes, July 3.*—I am happy to be able to state, that a considerable increase is manifested in our produce; the return from the Serra Velha exceeds in quantity any yet handed you since we have commenced working this mine, being 3 mcs. 7 ozs. 2 oits. 11 grs.—nearly 4 mcs. The above has been obtained from Oxenford's stopes; the appearances of these stopes have much improved, the auriferous ground having become thicker since I last addressed you. In driving the cross-cut south, from the foot of Terrel's winze, we have intersected a very soft floor of jacotinga. I have taken several samples from the soft jacotinga, and they all produce gold—one of which, from the eastern side of the cross cut, produced very well. The end which is being driven west from Oxenford's stopes is very much improved in appearance, and the samples taken from it showed tolerably well. We are progressing with the new stamps, and have no doubt of 12 heads being set to work by the end of next month.—JOHN HITCHENS.

Cuiaba, June 20.—The main point of our operations is on Roberts's stopes; the appearance of these stopes is greatly improved since our last, and we know no reason why our produce should not greatly increase by our next advices. Cocaes, 3 mcs. 7 ozs. 2 oits. 11 grs.; Cuiaba, 2 mcs. 4 ozs. 5 oits. 38 grs.—total, 6 mcs. 3 ozs. 7 oits. 49 grs., produce of 10 days.

[FROM CORRESPONDENTS.]

Whilst the mines in the Caradon district are generally assuming a more encouraging aspect, those in the locality of Tavistock appear to be keeping pace—recently great and important discoveries have been made. At Plymouth Wheal Yeoland, a branch of ore has been cut 6 in. wide, very good, and the lode, towards which they are rapidly driving, will be intersected in another week. At Wheal Concord, in driving the 10 fm. level east, they have an excellent course of lead ores, from whence large rocks of great weight are daily taken up. Wheal Franco has considerably improved, and the shares are sought after with avidity at former quotations. Since the meeting of Birch Tor, on Dartmoor (which we furnished last week), a course of tin has been cut, estimated worth 20*l.* per fm. At Devon and Courtney, the engine is ready to commence her intended duty; but, in consequence of the dryness of the season, they are enabled to keep the water in the shaft with horse power. The engine-shaft on the gossan lode is now 17 fms. deep, when at 26 fms. they propose driving to cut the lode, the ground being remarkably favourable. The north lode is down 7 fms. on the lode, and the ends are looking very well, being orey throughout; it is fully expected that, by the next meeting, some important discoveries will have been made.

BIRCH TOR MINE.—Within the last week, two discoveries have been made—viz.: in Guppy's shaft, a course of ore, worth 20*l.* per fm.; and in the 50 fm. level, under the ore ground in the 40, the best course of ore that has yet been seen in the mine.

CARADON CONSOLS.—Since the meeting evidences of improvement are manifest. From a new winze in the 15 fm. level, they have broken some very fine stones of ore; and as they will be under this in the next level, in about six or eight weeks, it is very probable they will find it continues down and increasing in size. The hard elvan course is likely to be cut out in about 8 or 10 fms. below the present sump, when the agents anticipate having a large and productive course of ore.

GONAMENA AND THE CARADON MINES.—It is stated that each of these mines have considerably improved within the last few days, each having had a good course of ore cut.

MARKE VALLEY.—In the bottom level of this mine, a very important discovery has been made—the lode, as it approximated the granite, produced unequivocal signs of improvement, which have resulted in a good course of ore. We trust that the enterprising adventurers will reap an abundant harvest.

NORTH WHEAL ROBERT.—Considerable improvement has lately presented itself in the lode in this mine, more especially in south winze, sinking below the deep adit (which at that point is nearly 40 fms. from the surface). The lode in the adit was generally from 2 to 3 ft. wide, for upwards of 30 fms. in driving, and composed of good spots of copper and lead ore, with a great quantity of mundic, spar, &c.; in sinking the winze, a rich discovery of yellow copper ore has been made; the lode is about 5 ft. wide, 2 ft. of which is rich work, with every prospect of improvement; the ground is easy to break, and very favourably situated, whilst about 250 fms. further west the indications are of a very promising character also.

PERRAN WHEAL VIRGIN.—The first sale of lead took place last week, when 50 tons were sampled, and brought 15*l.* 13s. per ton.—About 15 tons more are in the course of dressing. By Christmas, it is expected the engine will go to work—there are great quantities of ore in sight, and the most successful results are anticipated. The mine is not yet opened below the 10 fm. level.

TAVY CONSOLS.—This mine is well worth a visit from the geologist and the practical miner—the stratum being decidedly favourable to copper ores, as it is situated to the west of the Virtuous Lady Mine, from which large masses of ore were extracted several years since; and it is a remarkable feature in the case, that the ore was found in a sort of bed, and distributed in a very irregular manner. The main lodes, or rather the lodes deserving notice, have been opened at the vale of a very lofty hill—one of the lodes being good saving work for many fathoms in length—and the other, which was lately discovered in sinking a wheel-pit, being a strong orey lode, within a few feet of the surface, and very likely to turn out a profitable concern. It may also be remarked, that the Virtuous Lady lode runs through the sett, but that hitherto very little attention has been paid to it.

TING TANG.—The last Journal quoted these shares at 12*l.*—this is a jump from 6*l.*, but even now not within 5*l.* per share of the value of the materials, if the mine were stopped and sold. The cause of this improvement is, that, in sinking a winze in the 110 fm. level, a discovery of a bunch of ore wroth 20*l.* per fm. was made; and, having sunk beyond 3 fms., the ore (copper) not only continues, but improves in quality. A 120 fm. level is coming forward; and, should the ore continue down to that level, it is expected Ting Tang will rival her neighbours, the United Mines, and Consols.

WHEAL CALSTOCK.—This young mine was visited and inspected by a large number of the shareholders on the 16th inst., when the utmost satisfaction was expressed, at the progress made in developing its resources, or otherwise laying the mine open, and the economy practised in accomplishing what has been done—having only expended 225*l.*, or a 5s. call, on 900 shares; and for which sum one shaft was sunk 10 fms.—but that proving to be in hard ground was abandoned, and a new shaft sunk on the great gossan lode, which is down 23 fms., and an old adit partly driven, cleared up, and farther driven many fathoms, and the shaft holed on the day of the meeting; from the appearance of the lode, practical miners fully anticipate a course of copper ore, as soon as the cross-course is met with, and a probability that the cross-course will produce lead, it being in a line with the South Hooe lode on the other side of the river; the shaft is still going down, carrying some parts of the lode with it, and another adit partly driven can be made available 25 fms. below the present adit—so that this mine can be sunk, and the lodes driven, say from 50 to 60 fms. deep, requiring no other machinery but a horse whim. A call of 5s. per share was made, which will carry on the mine vigorously until Christmas—it may be further added, this mine is beginning to excite considerable interest in this neighbourhood—I may further add, out of the above sum expended, 20*l.* was paid for entering on the land, and 5 guineas to the Duchy for a licence to work.

WHEAL FRANCO.—A considerable improvement has taken place in this mine—the 32 fm. level end still continues driving on a good course of ore, and has done so for 20 fms.; in this level, a piece of lode 40 to 50 fms. long, which had been left standing, has been cut into, and found good—this will materially add to the returns. The quantity of ore is accumulating on the surface: owing to the alterations making in the dressing floors the next sampling will not be much over 100 tons, but this will be made up in the one after. It is expected the arrangements now making will cause a saving of 20 per cent. in dressing.

WHEAL CONCORD MINING COMPANY.

A meeting of adventurers was held at the offices of the Secretary, King-street, Cheapside, on Thursday, the 24th instant.

J. PICKERING, Esq., in the chair.

The circular convening the meeting having been read by the SECRETARY, the report of the committee, with that of Capt. Clymo, were submitted to the meeting:—

REPORT.

The committee, in presenting to the adventurers their report on the past operations of the mine and its present prospects, with the financial statement of the affairs of the company, have much satisfaction in referring to the report of their resident agent, dated 21st inst., as confirmatory of the views they have ever entertained of the value and importance to be attached to the mine, and the prospective advantages it presents in developing its resources. As it may be deemed desirable, that an outline should be given of the nature of the operations, your committee beg to submit the following remarks, which will be found to convey the principal points; while they refer to Capt. Clymo's report for more minute information, as regards the working of the mine.

Wheal Concord was worked by former adventurers to the depth of 50 fathoms—little work, however, having been done at any of the lower levels, the main object having been to sink to that depth, with the view of prosecuting the operations more extensively. On the resumption of the workings, an engine of adequate power was erected, and the necessary measures taken for clearing the mine, and extending the levels. The former, the committee have much satisfaction in stating, has been effected; while the latter has been pursued so far as time has admitted, and as will be found by Capt. Clymo's report, and the statements submitted from time to time to the adventurers, with successful results. In addition to the old workings, a new shaft has been sunk east to the depth of eight or nine fathoms, and a communication made with Arnold's shaft at the 10 fm. level, from which point about 35 tons of lead ore, dressed and undressed, have been already raised, of a produce yielding on an average 11*l.* 5s. per ton.

A new run or shoot of lead has been met with, taking an easterly direction, and which promises to be continuous—while the present returns from this point may be fairly estimated at 20 tons per month; and as the workings progress, and more ore ground opened, the returns may be expected to increase—while, on the other hand, the expenditure will, so far as surface operations and the clearing of the old workings are concerned, be considerably diminished—the main outlay being directed to the working of the ore ground, and the further development of the mine.

The accounts presented to the meeting embrace the period from 12th of June last, when the management was removed to London, to the present day. The balance-sheet shows the exact financial position of the company. Your committee, in closing their report, have to offer their congratulations on the prospects presented by the mine, and the early approach of profitable returns attendant on the outlay—while it will be seen, on reference to the financial statement, that a further call will be necessary, and which they submit to the consideration of the meeting.

Wheal Concord, Sept. 21.—In compliance with your request, I now proceed to give you an idea of our latest prospects in this mine. Having had the honour of a visit from Mr. Davey, on Saturday last, I thought it right to confer with him respecting future operations, when it was decided to suspend for the present driving some of the levels on discovery, and employ more force where we derive our chief returns—the motive being to curtail the future cost, and to send more lead into the market. In order to give effect to these views, we have suspended operations in the 38 east,—and reduced the number of sumpmen from 10 to 6 men, and removed them from the 50 fm. level, to rise in the back of the 38, west from the engine-shaft, where there is a large lode of a promising character. This is an important object to accomplish, as it will prove the lode between the 38 and 28 fm. levels, as well as establish perfect ventilation in both places. Since my last, the whole of the rubbish in the 38 west, and 28 and 20 east, has been cleared out, and the lode exposed to view. In the two latter ends the lode is very large and promising; and, although unproductive at present, they will shortly get under the course of lead gone down from the 10—when, from this circumstance, and the general character of the lode in the ends, I anticipate the most favourable results. In the 28 west we have discovered a branch of lead 2 fm. wide, in the bottom of the level; and this end is penetrating a fine piece of virgin ground—the lode at present is 2½ ft. wide, producing large quantities of mundic; and I have every reason to anticipate it will ultimately prove well, and that the mine altogether will fully remunerate the proprietors, if they will only exercise a little patience and perseverance. In the 10 fm. level, west from Snell's shaft, there is a splendid course of lead, 5 feet wide, worth about 27*l.* per fm. I have fixed as many there as can conveniently come to work,—and have no doubt, from present appearances, we shall be able to raise 20 tons per month from it, which will pay a considerable proportion of our expenditure. I sent you a box of ore from this level a day or two since. I have also, as you requested, made a rough estimate of our future monthly cost, according to our present scale of operations, which I find will be about 350*l.*, varying 20*l.* more or less, according to peculiar circumstances, which is beyond the agent's power to control. The company, however, may rest assured, I shall use as much economy in every department, and labour as diligently to promote their interests, as if the mine were my sole property,—I enclose you the letter of Messrs. Mullins and Co., the purchasers of our lead, sold on the 16th inst.,—and would thank you to do the needful, in sending the bill to their bankers for acceptance. The particulars are 11 tons 14 cwts. 1 qr., at 11*l.* 5s. per ton,—the total amount being 131*l.* 15s. 4d.—J. B. CLYMO.

Balance-Sheet.

Dr.				Cr.		
Amount to receive on calls made prior to 12th June	£385	1	1	Due to purser on 12th June	£635	18	4
Call, 30s. per sh., due July 31	1536	0	0	Due to Gill & Rundle 12th June	555	17	3
Call, 10s. per sh., due Sept. 21	512	0	0	May cost-sheet	258	8	9
Sale of lead ore	131	15	4	June ditto	322	6	0
Due to purser	122	17	3	July ditto	589	16	4
Due to Gill and Rundle	435	17	3	August ditto	447	19	4
Due on account July cost-sheet	319	7	8	Capt. Lean for inspecting and reporting on the mine	4	4	0
Due on account Aug. cost-sheet	447	19	4	Expenses in London—Comprising stationery, printing, advertising, lithographed plans of mine, &c.	37	3	10
				Due on calls	724	0	0
				Due from Mullins & Co., for ore	131	15	4
				Cash at bankers	173	8	9
Total	£3890	17	11	Total	£3890	17	11

WHEAL CONCORD.

Assets.				*Liabilities.*			
Balance of old calls	£385	1	1	Cost (including Aug. cost-sh.)	£1659	18	3
Call, 2*l.* per share	2048	0	0	Old debt to purser £635 18 4			
Sale of ore	131	15	4	Ditto Gill & Rundle 555 17 3	1191	15	7
Balance against the mine	286	17	5				
Total	£2851	13	10	Total	£2851	13	10

Mr. CROFTS, the secretary, felt it right to state to the meeting that, in the absence of several members of the committee, he had sketched out the report presented, as also a statement of the accounts, which, however, it was only right to observe, had not been audited. It having been determined that the accounts, as drawn up by the secretary, should be read, the same were submitted to the meeting—which, with the reports, were resolved upon should be received, adopted, and entered on the minutes.—It was moved, seconded, and carried unanimously, that two auditors be nominated; and that Messrs. W. Morrison and H. Smith be appointed to such office, who be requested to examine and pass the accounts submitted to this meeting.

The CHAIRMAN, in adverting to the report presented to the meeting, and the accounts, with which he expressed his entire satisfaction, observed, that the information he had derived, as regarded the prospects of the mine, was of a highly satisfactory nature; at the same time, that it was a matter of regret to him that the office he then held was not more ably filled.—A discussion of some length took place, with reference to the report of Capt. Clymo, in which he stated the intention of limiting the expenditure of the mine, by reducing the number of men in sinking the sump, and also at the 50 fm. level.—This proposition evidently did not meet the views of several of the proprietors, who expressed their confidence in the adventure, and whose opinions were rather in favour of extending the operations, with the view to further discoveries, than to limit the workings.—In the end, it was understood by the meeting that the secretary would communicate with Capt. Clymo, expressive of the opinions generally entertained by the meeting.

The minutes of the preceding meeting being accompanied by certain letters between the committee and W. Weekes, Esq., with reference to a balance due Messrs. Gill and Rundle, bankers, at Tavistock, wherein a question arose as to relieving that gentleman from any personal responsibility which he might be under to that firm, it was stated by the secretary, that the matter was clearly understood, and that the balance would be provided for in due course.

It was observed by a Shareholder, that a difference of accounts appeared to exist as between those submitted to the meeting, emanating from the committee, and the purser: he begged to inquire, how the matter stood?—Mr. CROFTS, in reply, stated that there certainly did exist a difference of 45*l.* with reference to certain calls paid, which were assumed by the purser to have been passed into the hands of the committee, which, however, he felt it his duty to deny. It was, however, a matter of account which, he felt assured, required only explanation to set right.

A general conversation ensued, as to the operations and prospects of the mine, which appeared to give satisfaction to the proprietors assembled; and a call of 1*l.* per share, to be called at such periods as the committee might think fit, was thereupon determined.—It appeared, from the general information conveyed, that the produce of the mine might be fairly estimated at 20 tons per month, with every prospect of increase, from the discoveries lately made.

A vote of thanks to Mr. P. Davey, for his kind attention to the interests of the adventurers, as also to the chairman, for his conduct in the chair, having been passed, the meeting separated.

LEWIS MINING COMPANY.

At a meeting of adventurers, held at the offices of the company, No. 44, Finsbury-square, on Friday, the 25th inst.,—RICHARD HODGSON, Esq., in the chair,—the advertisement convening the meeting having been read,

The CHAIRMAN proceeded to read the report of the directors, and also the subjoined from Capt. Noell—that from Capt. Paul will be found among our Mining Correspondence—introducing the same by some prefatory remarks with reference to the prospects held out by the present workings.

REPORT.

The directors have called you together to present you with the state of your affairs, and are exceedingly glad to be able to inform you of the improved state of the mines, which you will find by the reports of Capts. Paul and Noell, which will be read, and the mines have recently been visited by one of your directors. At present, we have not stamping power enough to return all the tin raised per month; and, upon the general advice of the agents and Cornish shareholders, have decided upon putting up steam-stamps; for that purpose, have purchased a small engine, with boiler, &c., at the reasonable sum of 112*l.* Upon these stamps being completed, not only can all the tin raised be then returned, but upwards of 20 tributers can immediately be put on; and we have already about 1000*l.* worth of tin ore on surface, waiting to be returned, the labour of raising which has already been paid for.

Lewis Mines, Sept. 18.—Agreeable to your request, I beg to hand you my report of the state and prospects of these mines, with a detailed statement of the operations since your last annual meeting, and what we propose doing in future, &c. Wheal Nutt engine-shaft has been sunk from 9 ft. below the 50 fm. level to the 60, and extended east 16 fms. 1 ft.; the lode in this end is 2½ ft. wide, worth 50s. per fm. for tin. The lode in the 60 west is 3 ft. wide, and very kindly, producing some good stones of black ore; this level is driven from the above shaft 12 fms. 2 ft. 6 in. The lode in the 50 fm. level end east is 2 ft. wide, worth 50s. per fm.; this level we have extended 34 fms. 2 ft. 6 in., through some productive tin ground; the back is now being worked at 1s. 6d. in the 20s.; the average price per fm. for the end is about 24s.; the lode in 50 end west is 3 ft. wide, producing some tin, and very promising—this level has been driven 36 fms. 2 ft. 1 in. The lode in the 40 fm. level end east is 2 ft. wide, worth 55s. per fm. for tin; this level has been extended 17 fms. 1 ft. 2 in.; the back over is now being worked at 10s. tribute; the 40 west has been suspended for some time, in order to drive a cross-cut south, to intersect the south branch: The 30 fm. level has been extended east and west 50 fms. 1 ft. 1 in.; the back of this level is now being worked at 30s. tribute; the 30 fm. level on south branch has been extended east and west of William's cross-cut 10 fms.; the back of this level is now being worked at 10s. in 20s. The 20 east is producing tinstuff, and kindly; the 20 west is worth 30s. per fm.—the back will work at a moderate tribute; we have some other pitches working on south and middle lode, at 11s. tribute; at this level we have driven a cross-cut north, and cut a copper branch, on which we have extended east and west 13 fms. 5 ft., and have raised about 12 tons of good quality copper, ore at 10s. tribute, and 20s. per fm. for the end; we are continuing this cross-cut north towards Bush shaft, or north lode, where the prospects are very encouraging,—and we have raised some good quality tinstuff in sinking the said shaft. We are also sinking a winze under adit on Besworgie Town lode, where we have a promising lode, producing some tin, about 80 fms. south of our present workings. Sump whim shaft has been sunk 9 fms.; copper ore, 17 fms. 5 ft.; tin shaft, 8 fms. 5 ft.; oak shaft, 8 fms. 5 ft. 6 in. North cross-cut driven at 20 fm. level, 40 fms. 11 in. Our little eight heads stamps are doing tolerably good duty, stamping about one-third of the tinstuff we are raising per month, but could not stamp one-sixth of what we could raise had we a sufficient stamping power. In the last six months we have sold 755*l.* 6s. 6d. worth of tin, and 48*l.* worth of copper ore; but the tin bill for September will be for a very small amount, in consequence of the abatement of the water for the stamps. We have taken out the foundations for our new stamping engine; and on Monday next, the 21st inst., we expect to commence building the house, after which we expect to complete it in about one month; and then so soon as the house is ready, we shall lose no time in getting the engine in course of working—after which we hope our tin bills will be more regular and pleasing to the adventurers. I beg to say, that you may infer from the remarks that I have made on the different levels, that my opinion is decidedly in behalf of our present prospects. I think you have every indication to warrant our perseverance with all might and industry that can possibly be rendered.—S. S. NOELL.

The CHAIRMAN, having referred to the report submitted to the meeting, as containing all the information which the committee had acquired, congratulated the adventurers on the improved state of the financial position of the company, and expressed his confidence in the undertaking yielding at an early period those results which had been ever contemplated, and which the operations of the past few months warranted him in anticipating. Indeed, it was only to refer to the accounts themselves to prove this. It would be seen that, at the period of the last meeting, there was a balance against the adventurers of 2266*l.* 7s. 5d.; since which time materials had been sold, which amounted to 1559*l.* 13s. 10d., thus reducing the deficit, or arrears, to 706*l.* 18s. 7d. Against this, however, was to be placed the cost incurred from January to July inclusive, amounting to 356*l.* 1s. 2d.; and the cost of London management and incidental charges, 242*l.* 3s. 3d.; while the receipts *per contra* were received on account of calls, 1760*l.*; tin and copper ores sold, 1125*l.* 9s. 3d.—thus, exclusive of the materials sold, leaving a balance of 1624*l.* 8s. 9d. against the mine at the present moment, or, rather, up to the end of July. The returns since which period might be considered fully to have equalled the cost. To meet such balance there was due, on account of calls, 1870*l.*; while the value of the tinstuff at surface was estimated to produce the sum of 1000*l.* net.; thus leaving a balance, in favour of the adventurers, to the amount of 745*l.* 11s. 3d.—A considerable portion of the shareholders being resident in Cornwall, and out of town, at the present moment, he regretted that the meeting was not more numerously attended; but being anxious, with the other members of the committee, to place before the adventurers a statement of the accounts of the company—as also a report of their proceedings—it had been considered desirable to convene the present meeting.

Mr. TRENERY was anxious to know, whether the present workings were likely to be extended, and the number of tributers, with the rate on which they were employed on ore ground. He expressed his satisfaction with the report expectations. The report and accounts then presented were, he was ready to presented, and doubted not but that, with vigilant attention and active prosecution on part of the committee, the mine would prove equal to their most sanguine acknowledge, fully satisfactory to his mind; and he doubted not but that such would be deemed equally so by the absent shareholders.—The CHAIRMAN having replied to the observations made with reference to that portion of the sett, which had been abandoned, as also the new ground, which was considered by that gentleman highly satisfactory,—it was moved by Mr. TRENERY, and seconded by Mr. LEWIS, that the thanks of the meeting be given to the chairman, when, after some desultory conversation, the meeting adjourned.

BOTALLACK.—Mine cost for the months of May and June:—By balance in purser's hand, last account [see the *Mining Journal*, August 8], 1127*l.* 12s.; for tin sold, 1122*l.* 9s. 6d.=2250*l.* 1s. 6d. To labour cost, income tax, and poor rates, 1339*l.* 16s. 7d.; merchants' bills, &c., 426*l.* 16s. 8d.; dues, 56*l.* 2s. 6d. =1822*l.* 15s 9d. Leaving balance, carried on, 427*l.* 5s. 9d.

CARADON CONSOLS.—A meeting of adventurers was held at the mine, on the 17th instant, when the accounts, to end of July, submitted—showing balance against the mine of 442*l.* 5s. 9d.—having been examined and approved, were allowed and passed; when it was resolved,—that a call of 50s. per share be made, to meet the existing balance, and for the further prosecution of the mine.—The following report from Capts. J. Clymo and W. Whitford was read to the meeting:—We deem it proper to give our shareholders some information respecting our proceedings since the last meeting. Pode's engine-shaft is now sunk 54 fms. from the surface, and 9 fms. below the 27 fm. level, being 36 fms. below the adit. We shall complete this sink in about three weeks from this date, and immediately commence a cross-cut south, to cut our main lode, and also to drive north to cut the middle lode, which we expect to accomplish within three months from this time. The main lode, in the 27 fm. level west, is extended about 8 fathoms; the lode is small, and at present suspended. The middle lode is driven on west 12 fathoms, and, although at present small, is producing ore, and good indications. The winze sinking below the 15 fm. level is now down about 3 fms.—lode about 9 in. wide, producing stones of ore; this being done to ventilate the bottom levels. The engine-shaft sunk on the north lode is 50 fms. from surface, which is 30 fathoms below adit level. We have driven east on the course of the lode, at this level, 27 fms.—it is composed of gossan and spar, averaging about 3 ft. wide, underlaying north very regularly. We expect, in 15 fathoms further driving, to get under a very promising lode, which we passed through in the adit level, which produced good stones of ore; and shall, in the meantime, intersect another lode, which we cut in the adit level, and was there very kindly, and produced good stones of ore.

CREBOR CONSOLS MINING COMPANY.—At an adjourned meeting of adventurers, they came to a determination to open an old eastern shaft, in the bottom of which there is said to be a very fine lode; the appearances from an adjoining burrow, indicate that this report is not without some foundation.

EXMOOR WHEAL ELIZA MINING COMPANY.—A meeting of shareholders was held at South Molton, on Tuesday, the 22d inst.—S. L. COLLEY, Esq., in the chair—when the accounts—showing a balance in favour of the adventurers of 42*l.*—having been examined and allowed, a call of 1*l.* per share was made, and the bills for labour, materials, and machinery, were to be paid.—It was then resolved, that the services of Capt. O. Matthews be discontinued at the end of the present month; and that Capt. J. Prior be the future resident captain, at the salary of 7*l.* 7s. per month.—It was also resolved, that the meetings be held at Tavistock, instead of South Molton, but that there be meetings on the mine once in six months.—[We have not received the captain's report, or copy of accounts, but presume we shall next week.]

NORTH WHEAL LEISURE MINING COMPANY.—A meeting of adventurers was held on the 15th Sept., when the accounts produced, showed the expenditure for February, March, April, May, June, and July, to be 359*l.* 10s. 1d., and the receipts arising from sales of tin as 372*l.* 13s. 6d.: leaving a profit of 13*l.* 3s. 5d., which, after having been examined, were allowed, and the balance ordered to be carried to the credit of the next account.

PENHALLOW MOOR.—At a meeting of adventurers, held at the mine, on Tuesday, the 15th inst., the minutes of the last meeting having been read and confirmed, it was resolved,—That the accounts from November, 1845, to the end of July, 1846—showing balance against the mine of 57*l.* 3s. 9d.—having been examined, be allowed; the adit end driving west be discontinued, and the men employed there be put, with as many additional ones as may be required, to sink on a north and south lode in the mine; and that a call of 10s. per share be made for the purpose of carrying out this resolution.—The credit account includes sales of lead to Messrs. Mullins and Co.—8 tons 8 cwts. 2 qrs., at 13*l.* 6s. per ton, 45*l.* 5s. 8d.; 2 tons 2 cwts., at 7*l.* 11s., 15*l.* 16s. 4d.=61*l.* 2s.

ST. CLEER CONSOLS MINING COMPANY.—A meeting of adventurers was held on the 17th inst., when the account submitted—showing balance in favour of mine of 58*l.* 9s. 4d.—having been examined and passed, it was resolved, that a call of 5s. per share be made. The purser was directed to employ Mr. Simon Peter, a solicitor to the company, to take legal proceedings for the recovery of calls in arrear.

WEST WHEAL FRIENDSHIP MINING COMPANY.—A meeting of adventurers was held last week, when a call of 1*l.* per 256th share was made. They have sunk the engine-shaft 34 fms., and are now driving a cross-cut to intersect the lode at that depth, having about 7 fms. more to drive. Since the meeting, a new water-wheel has been put to work, of 34 ft. diameter, and 4 ft. breast; its present duty will be but little, as the present dry season has considerably lessened the water in the mine. The expense of wheel, wheel pits, cutting leats, &c., &c., amounted to about 80*l.*

WHEAL BENNY MINING COMPANY.—The two-monthly meeting of adventurers was held at Callington, on Thursday, the 10th inst., when it was resolved,—That the costs for the months of June and July, showing an expenditure of 192*l.* 11s. 4d., having been examined, and found correct, be passed and allowed.—That the engine-shaft be sunk as fast as possible, and that a sufficient number of pumps be ordered for the purpose of sinking it effectually. That Capts. T. Rodda and T. Penaluna, and Messrs. W. Mathews, T. Prout, and F. Prout, be appointed a committee of management for the ensuing two months. That a call of 1*l.* per share be made payable to the purser as follows: 10s. on the 10th Oct., and remainder on 10th Nov.—The agents expect to cut No. 1 lode, south of Ford lode, in the shaft, on sinking about 3 fms. more.

WHEAL LOUISA MINING COMPANY.—At a meeting of adventurers on the mine, and then, by adjournment, at the Cornish Inn, St. Stephens, Branwell, on the 17th instant,—GEORGE YELLAND, Esq., in the chair,—it was resolved, that the accounts for May, June, and July—showing a balance in favour of the purser of 79*l.* 10s.—having been examined, be allowed; and that, in order to liquidate the same, and so provide for the future working of the mine, a call of 1*l.* per share be made, to be paid forthwith to the secretary.—It was then resolved, that Capt. Chynoweth be authorised to employ men to drive an adit, in order to intersect the Wheal Arvose and Hewas Consols lodes—the former of which has been recently discovered in a sett just commenced upon to the westf (Wheal Arvose being to the east), consisting of very fine gossan, richly spotted with copper; it is quite certain the lode runs through Wheal Louisa sett for from 300 to 470 fms., and can be proved at a trifling expense.—That, as an additional number of hands will be employed, and more of Capt. Chynoweth's attention will be required, his salary be increased one guinea per month.—The following report from Capt. James Chynoweth was read to the meeting:—At Wheal Louisa, the engine-shaft is down 15 fms. 4 ft.; the ground through which we have been sinking is much the same as last reported. I am happy to inform you, that there is a fine discovery made in a sett adjoining Wheal Louisa to the west, on the lodes running through our sett from Wheal Arvose; and Wheal Arvose lodes, which are to the east of Wheal Louisa, present a splendid gossan, thickly spotted with rich copper ore.—The following has since been reported: we have set a level to drive, for the purpose of intersecting Wheal Arvose and Hewas Consols lodes, which I hope will be done in a short time.

WHEAL ROBINS MINING COMPANY.—The adjourned meeting of adventurers is announced to be held on Wednesday next, for the purpose of receiving the report of the committee appointed to examine the accounts, and to decide respecting future operations.

WHEAL VLOW MINING COMPANY (Perranzabuloe).—At a meeting of adventurers, held at Mrs. Prout's, Perranporth, on the 17th September, it was resolved,—That the accounts—showing a balance of 43*l.* 0s. 9d. against the adventurers—having been examined, be allowed, and the said balance placed to the debit of the next account.—That a call of 10s. per share be made; one-half to be paid forthwith, and the remainder on or before the 1st Nov. next.

ASHBURTON AND OWLACOMBE MINES.

SIR,—Though I by no means expect that your valuable Journal should be made an instrument for carrying on a paper war between parties of opposing interests, yet, having read in your last Number a letter, signed "Henry Weston, of Knighton, near Chudleigh, Devon," calculated to cast an imputation upon my integrity and fair dealing, and which, if suffered to go unanswered, might affect my repute in mining circles, you must permit me respectfully to request the insertion of this, my answer to the one-sided and unbusiness-like statement of Mr. Weston. In the first place, Mr. Weston had purchased the Ashburton Mine before I became acquainted with him, and had sole possession of it from October, 1845, to May, 1846—during which period he displayed much impatience and unbusiness-like qualities, and acted in direct contradiction to the advice I gave him, and to the report which I had made after a thorough investigation of the mine. If he has any reason to complain of want of success in the undertaking, he has himself to thank for it; but whatever he may assert upon that subject, I confidently believe that, so far from being a loser, he has gained a considerable sum by the mine, notwithstanding his untoward interference in the management of it—in fact, the mine is a very promising one; and I will venture to assert, that it will eventually pay 50 per cent. for the money laid out, and even more.

With respect to my account against Mr. Weston, I must observe, that the items therein were inserted merely in the shape of headings for the sake of brevity—therefore, to an unconcerned observer, the charges may appear inconsistent; but Mr. Weston—for whose perusal alone the account, in its epitomised state, was intended—perfectly well knew the meaning of the respective headings, and was well acquainted with the great extent of work and labour done by me in the management and superintendence of the mine, without any copiousness of detail. The charges I make cannot, therefore, be judged of by a mere perusal of the items—a more intimate knowledge of the matter is required to arrive at a just conclusion; a great part of my demand is for money paid out of pocket for travelling expenses, attending Mr. Weston frequently in London; there was very severe extra work in a mine, which, having been much mismanaged, was, in fact, dangerous to enter. The 20 shares I received from Mr. Weston was a remuneration for previous surveys, quite distinct from any management at Ashburton; and the assertion, that 6*l.* per share was paid on those shares, is untrue—3*l.* only is paid on them, and the remaining 3*l.* per share is yet to be made good by Mr. Weston, which payment he does not at all appear anxious to make. It appears to me, however, a very unusual way of doing business, to answer my account by publishing the same; for what can the public have to do with the preliminaries of a demand? Mr. Weston's reason for thus acting is quite obvious, and is in excellent keeping with the rest of his conduct towards me; for, throughout the whole affair, there was an evident intention on his part to trifle with my time, to thwart my plans, and, by improper interference, to render my exertions unsuccessful—merely, it would seem, to furnish some ground for impugning my veracity and judgment. Such motive may, indeed, appear suicidal and paradoxical, but I can assign no other reason for Mr. Weston's line of conduct.

My calculation of cost would have been found to be correct, had the works been carried on according to my directions, and had no impediment existed—the fact is, that the water could not be forked out, on account of a pending dispute between Mr. Weston and the proprietor of the adjoining mine (West Beam), who had the stream required for our wheels; yet, in spite of this difficulty, I thoroughly believe that 6 tons of ore were raised during the period in question,—but, through the misapplication (speaking in the mildest terms) of the materials, by those who ought to have acted under my directions, the result was only 8½ tons. I shall conclude by observing, that the justness of my account against Mr. Weston's will, in a short time, be submitted to the consideration of a jury, and that I confidently expect a favourable result.

Sept. 24. THOMAS KITTO, Jun.

WHEAL CORNWALL MINE.

SIR,—In your Notices to Correspondents of last week, you refer to the receipt of a letter, dated from "St. Michael's-alley, Cornhill," and signed by one calling himself "A Friend to Cornish Mining." Will you oblige me, by stating in your next, that I am not the writer of that, or the previous letter alluded to. I would not trouble you to do this, but from the false address given by your correspondent. The letters have by many been attributed to me, and I assure you, I wish neither to enter into "personal disputes," nor to condemn a mine, of the merits or demerits of which I know nothing.—J. Y. WATSON, *Mining-offices, 1, St. Michael's-alley, Cornhill, Sept.* 24.

[The object of Mr. Watson will be fully answered by inserting his letter; we may, however, add, that our respected correspondent is in no way connected with the mine, or with the letters concerning it which we have received.]

EAST COMBE SILVER AND LEAD MINES, NORTH DEVON.

SIR,—During a recent visit to the north of Devon, among other matters which came under my notice, I was much struck with the favourable appearance of the East Combe Silver and Lead Mine, in the parish of Swymbridge, whose prospects I consider of the most promising nature:—The mine is situated in a valley, and the lodes are underlaying into an immense hill—an adit level being driven south 60 fms., and seven lodes already discovered in the carboniferous strata: they have also driven east on the course of one of the lodes for about 120 fms., and discovered several fine bunches of silver-lead; they have eight shafts, one of which is secured from the adit level by masonry in a beautiful manner, and they have commenced collaring up the second in a similar way: they have a fine water-wheel, between 36 and 37 ft. in diameter, completely new, standing in a wheel pit fitted up with masonry, the wheel pit being secured by a frame of timber work of an extraordinary size; they are preparing bobs, rods, &c., of the most substantial nature; they have a very large whim erected, together with capstan and sheaves—a saw-house, large enough to contain two pairs of sawyers, who are at work, and a carpenters' shop, and the yard well stored with timber; a smiths' shop, well furnished with iron and smiths' tools; a lift of pumps complete, and a counting-house. This mine is carried on by a spirited and enterprising company—yet done almost in profound secret, as nothing of her progress has as yet, as far as I have seen, appeared in the *Mining Journal*. I find that part of the same company have opened a coal and culm mine, in the parish of Tavistock, for which they have a large and extensive sett; a quantity of culm is lying at the surface of one of the shafts of a superior nature, and is now in use for burning lime in that neighbourhood. A south vein has been opened, producing coal, which has been used both in grates and in smithies, and found to give a strong heat. These lodes are located in a stratum of sand or gritstone, accompanied by the black-band ironstone; the walls of the lode are composed of shale, which bears the impression of vegetable matter, both of leaf and berry, of various kinds. The mines are conducted by by Capt. John Harper (late of Cornwall), who has also discovered both manganese and copper ore, in the parish of Charles, of which he is the sole proprietor, holding the setts under peculiar circumstances, and is worthy of credit, both as a geologist and a miner.—AN OLD MINER: *St. Austell, Sept.* 21.

WHEAL FRANCO.

SIR,—Your correspondent says—"If I am shareholder, I may obtain information by applying to the purser;" but ought I not as a shareholder to be informed, without being *compelled to apply* to the purser? Truly, it makes pursers men of very great importance—the *masters*, rather than the servants, of the shareholders. In Wheal Franco, as in many other mines, they profess to have a general meeting every two months—why not, after each of these meetings, have the reports and accounts printed, and sent to the adventurers, and to your Journal for insertion. All the shareholders would then be placed upon an equality, which they are certainly not at present,—for, as it now is, *a few persons possess all the information*,—and it has been extensively used for the individual interest of some of them. It is quite necessary to do away with such a state of things—as, wherever it exists, the mine gets into disrepute. There is sufficient risk in mining, when *honestly* conducted, without the adventurers being made the prey of JOBBERS. Your correspondent says, that if the ores are sent to ticketing, "it is questionable if the difference would pay the expense of samplers and agents coming from Cornwall." This is not the question; but that the mine would then be placed before the "*mining public*, who would have an opportunity of forming their opinion of Wheal Franco,—and the result would be, the shareholders would soon find their property *increasing in value*," instead of the shares being, as they now are, *worked up* or *down*, as may suit a few individuals. If Wheal Franco ores are disposed of at Plymouth, there cannot be any very great objection to their being sold by ticketing.

Are not Wheal Maria, and other ores, sampled monthly in the same locality—and could not samples of Wheal Franco ores be taken at the same time? Should this prove an additional cost, the shareholders would, I repeat, be more than compensated by the increased value of their shares; and the London market would be open to them, which it is not now, solely from the causes already mentioned; it is, therefore, to be hoped the adventurers will look into these matters, and not leave their property at the mercy of jobbers. That Wheal Franco, if worked honestly, will be a good mine, is proved by the fact, that the monthly ore sampled in August, produced 600*l.*—whilst the cost (as stated in the *Mining Journal* of the 29th ult.) was 500*l.*—showing a profit of 100*l.*; and I cannot but think the cost is heavy upon the quantity (143 tons) of ore raised. I am informed the shares are improving in value—that they will do so, I have good reason to believe; and if the shareholders will only act together, and not allow Wheal Franco to be used as a pocket borough, they will soon see a very improved state of affairs.—S. C.: *Sept.* 24.

TREVEAN MINE—THE CAPTAIN AT FAULT.

SIR,—As the representative of the mining interest—consisting of mines, adventurers, captains, and men—you are, of course, desirous of maintaining due discipline. The legitimate interests of mining, however, do not require the "bal," or the share market, to be upheld by petty tyranny on the one hand, nor by chicanery or fraud on the other. Some captains, however, are petty tyrants; and "dress'd in a little brief authority, play such fantastic tricks before high Heaven as make the angels weep." But the *Mining Journal*, as the upholder of mining, must protect the men. Here is a case of complaint, to which I would draw your attention. There is a mine in Cornwall called Treveen—there is also a Captain Powning in the same county, and a miner named Donald—there is also a Mr. Mildren, who is the lord or owner of the dues of that certain mine. Of course, in his grant or sett, the owner of a mine reserves the right to go down into and inspect, dial, and measure, especially to see whether his own ground is being worked, if contiguous to another. The writer of this and others wish to know why it is that the miner, Donald, is no longer allowed to work his pitch in Treveen. He says it is because he accompanied Mr. Mildren (or Meldrun) down into the mine, to examine whether the workings had extended into Mr. M.'s own ground. As this act of tyranny has created considerable surprise and indignation, it is, of course, only right that the parties implicated should have, through your columns, an opportunity of defending themselves.—A. T. J. MARTIN: *Penzance, Sept.* 19.

SHARE JOBBING IN TAVISTOCK.

SIR,—A system of jobbing in mining shares is carried on here to a great extent, and the following is an outline of the manœuvres practised on the incredulous and unsuspecting purchasers:—The "mining king," in the zenith of his glory, consequent on his great success, is in the habit of taking setts, and sinking a few costean pits at a trifling expense, merely to see the backs of the lodes; when the agent, who, no doubt, is put up to the "artful dodge," is ready to show some "*lovely*" stones of gossan; the natural inquiry is, where did it come from? "From such and such a mine." "Oh, I never heard of her before; and who are the shareholders, and what is the price of shares?" The agent, of course, professes ignorance; however, these stones are hawked about by the mining king and his subordinates—grocers, druggists, and last, though not least, a man of *spirit*, in whose name shares are transferred for the sole object of selling. Thus, it will be seen that such trickery tends to injure legitimate mining in a great degree. I hope, Sir, that you will not fail fearlessly to expose such a nefarious system of jobbing, and place the two great mineral counties fairly before the public, in order to induce parties to embark, who may expect a fair remuneration for their capital employed in mining operations, and not be subjected to the jobbing system, to which I have directed your attention.

Tavistock, Sept. 26. FAIR PLAY.

PLANS AND SECTIONS OF MINES.

TO THE EDITOR OF THE WEST BRITON.

SIR,—The importance of having good plans and sections of the workings in mines was never so fully acknowledged as at the present time. Within the last few years some of the most considerable of the mines in this county have had their stated salaried surveyors, to draw and keep forward their plans; and this should be the case with *every* mine—the expense of so doing being very trifling compared with the probable, if not certain advantage, resulting from the possession of accurate plans. The work should not be performed by the agents, unless they happen to be surveyors also, or at least quite competent for the undertaking, as a few of them are; and those that are competent should do it (if their duties permit) to save the expense of hiring a surveyor. And certainly an agent who can make a good plan is a more desirable officer of a mine (other qualifications being equal), than a man who does not possess that ability. But it happens that most mine agents have so much to do in their regular business, as to preclude the possibility of their attention to surveying. This subject has been brought to my mind, by the fact, that the celebrated Wheal Vor Consolidated Mines, which have just been "knocked," have no plan to inform future adventurers or posterity of the extent and situation of the levels, &c.—a circumstance to be regretted. There are many other great mines now at work similarly circumstanced—take Tresavean as an instance. Surely, the little expense of procuring such a document should not be an objection, nor the monthly cost—a mere trifle—of keeping it forward; and where the agents can well and conveniently do it, all expense may be saved. Amongst the covenants usually inserted in mine setts, would it not be well for the lord of the land to insert a covenant requiring that the grantees should cause to be drawn, and kept at the counting-house, a correct plan and section of all the shafts, levels, and other workings in the mine, and reserve a right to inspect and copy the same? I am not sure that such a covenant is not now usually inserted in setts; if so, it should be enforced; and if not inserted, I submit that in all future grants the covenant would be a good addition, and more proper than, perhaps, some of the present covenants. Many of your readers, I presume, are aware that there is an institution in London, called the Mining Record Office, of which Robert Hunt, Esq., late secretary to the Polytechnic Society, Falmouth, is the keeper. In this office it is intended to deposit all plans and sections of mines, and all records of mining, which may be referred to at any time by the public, free of expense. The Government I understand, a few months ago, voted 30,000*l.* for the erection of a building for this office, in connection with the Museum of Economic Geology. I believe the whole establishment is under the direction of Sir Henry De la Beche, the eminent geologist. Now, a moment's reflection will, I think, convince any man of the utility of this institution, with reference to plans and sections. Suppose a mine now ceases to work, and that 50 or 100, or more or less, years hence a company should wish to rework it—if by applying at the Mining Record Office a correct and complete plan could be seen, how valuable would it be esteemed by them, from the instruction it would furnish for their operations; and what useless expense it would save, by preventing any incorrect measures in their management—planting of machinery, &c.! On the cessation of any mine work, a correct plan and section should, therefore, in my opinion, be deposited at that office; and therewith a statement of all particulars relative to the mine—a *history* thereof—the cost of working—the returns, &c., &c., particularly at the time it was stopped. I hope that these hints will not be rejected by the parties to whom they refer.

Truro, September 2. S.

QUICKSILVER.—The *Prince Albert*, New York packet ship, left St. Katharine Docks on Tuesday, having, besides 250 passengers, and a large cargo of manufactured goods, upwards of 600 bottles of quicksilver. The exportation of this article has greatly increased of late, in consequence of the alteration of the tariff, and the augmentation of the duty, which takes place in December. The *Christina*, which sailed from London to New York last week, took out 300 bottles of quicksilver.

THE SILVER MINES OF SALA.—The Stockholm papers still allude to the disastrous conflagration of the furnaces, and other buildings, used for working the silver mines of Sala, about 20 leagues north-west of that city—the whole of which were destroyed by the flames, favoured with a strong northerly wind. The loss is estimated at 120,000*l.* The origin of the fire has not been ascertained; it unfortunately has thrown a great number of men out of employ—this being one of the most extensive silver mine establishments in Sweden.

CRAWSHAY BAILEY'S COAL-WORKS AT ABERAMAN.—Mr. Bailey has, after sinking his pit 126 yards, struck the coal at Aberaman, generally termed the 4 ft. vein, which proved to be 5 ft. 9 in. thick, and of the best quality. On the day Mr. Bailey ascertained its thickness, he presented his agent, Mr. D. Williams, Ynyscynon, with 100*l.* for his faithfulness in superintending the works; and, on the Saturday following, at the Swan Inn, he gave a good supper and half-a-gallon of *curiw du* to 137 persons connected with his Aberaman Works.

FEMALES WORKING IN COAL MINES.—Messrs. J. Greenough, Bourne, Robinson, and Co., Coldwell, Speakman and Co., Bromilow, Haddick and Co., Johnson, Worthington, and Co., Jonas Schofield and Co., William Bromilow and Co., and John Stock, Brothers, and Co., have been summoned before the magistrates of St. Helen's Lancashire, by the County Constabulary Force, for permitting females to work in their collieries. Three of the cases were gone into, when the magistrates came to the conclusion of dismissing them on paying costs, and on the promise of Messrs. Marsh and Johnson, solicitors, who were employed for the colliery masters, not to permit the females to work any more in the mines.

A MINER'S OFFICIAL REPORT OF THE ROYAL VISIT TO THE MINES AT CORNWALL.—The following is a copy *verbatim et literatim* of the account of the visit of her Majesty and Prince Albert to the Restormel Mine in Cornwall, sent by Capt. C——; who conducted the royal party, and which was received at Southampton by one of the leading scientific members of the British Association:—"*9th Sept.*, 1846, *Lostwithiel*. D Sir this is to Let you know that I had the high Honour of Conducting the Queen victoria And Prince Albert Und grownd yesterday the 8th of sept I can Insure you I Laboured hard to Make every Nesary Preparation for her Majesty and the Prince to go und grownd And so Did Cook. We first Warented Perfectly safety we Prepared 5 ungrownd Wagons the queen and Prince Albert went in the first Wagon, Mr. t—— walked in through the Level And I By his Side Conducting the queen And Prince Albert with 4 pulling the wagon by a Roope the Und Grownd. Upwards 200 fathoms then the queen and Prince walked 14 fathoms through the level. I put the Pick in Prince Albert's hand Wich He took it and broke a stone of ore. I hold My Hat Cap for him to break it In. He took it out of the Hat and Put It In his Pocket. I am happy to Let you know That we never Make the Least Shade of Blunder Whatever I hav I ham thankful I know Not how to express myself to you for your kindness had it not Bean for you I should never have had the high Honour of conducting her Majesty undgrownd, our Mine is working favourable. Wen I see you I will Give You the Particklulars of the queens visit. Wee are all well thank God for it." An accompanying letter states that the miners did not know it was the Queen, and that they said, "Do not be afraid *Mrs.*, you will be safe enough if you follow us;" but they soon found it out, for lots of them came in their working clothes, running over the mine just in time to see her go away. They presented the Prince with two miner's hats.

MINE ACCIDENTS.

Trefoil Mine.—John Nicholls, who was so dreadfully scalded from one of the tubes of the engine bursting, died on Tuesday.

Llynvi Iron-Works, Maesteg.—C. John was killed while following his employ.

Onllwyn Works.—M. Howell was killed by a fall of rubbish.

Aberaman Colliery, Merthyr.—As W. Davies and J. Edwards were descending a pit, the engineman mistook the signal, and heaved them above the sheave, whereby they received dreadful injuries, from the effects of which Davies has since died, and Edwards is not expected to survive.

Gorsty-hill, Wolverhampton.—J. Lane was killed at Pearson and Parish's.

Bilston.—W. Hughes was killed by falling down a pit in the Cold Lanes.

THE CORNWALL RAILWAY.—Messrs. Baker, the Government contractors, have undertaken the contract for erecting the bridge across the Tamar at Saltash, in connection with this railway.

THE QUEEN'S VISIT TO CORNWALL.—Capt. Davis, R.M., of Fowey, who attended her Majesty and Prince Albert to the Restormel Iron Mine, from thence to Mr. Treffry's, Place House, and to the place of embarkation, has received a complimentary letter from Lord Palmerston, for his prompt and kind attention on it at occasion.

CALEDONIAN EXTENSION RAILWAY.—A meeting of the shareholders was held at the Royal Hotel, Edinburgh, on Thursday—HODGSON HINDE, Esq., M.P. in the chair—to consider the propriety of dissolving the company.—After the appointment of scrutineers, the SECRETARY stated that the number of shares issued was 59,140.—The SECRETARY then read the report, which attributed their failure to the previous decision of the committee of the House of Commons in the case of the Glasgow and Dumfries line, and not to any want of exertion on their part, or to any deficiency in the merits of the line. The report stated that the expenses that had been incurred amounted to 51,630*l.*, or about 17*s.* per share. The chance of carrying their bill being greatly diminished by the success of the Glasgow and Dumfries line, and, as many of the shareholders had expressed a desire for the dissolution of the company, the directors did not consider it to be their duty to recommend its further prosecution. The report concluded, by stating that the directors had entered into an arrangement with the Caledonian Railway Company, by which the company were to acquire a right to the plans, &c., of the Caledonian Extension, on the condition that they should undertake the debts of the Caledonian Extension beyond 15*s.* per share. This arrangement would enable the directors of the Caledonian Extension to repay to the shareholders 25*s.* per share.—The motion for dissolution was seconded by Mr. JOHNSTON DOUGLAS, of Lockerby, and was unanimously agreed too.—The CHAIRMAN then intimated that the payment of the balance to be returned would be made to the shareholders about the 15th October.—The scrutineers having reported that the number of shares represented at the meeting was 20,450, all of whom were in favour of dissolution, the company was declared dissolved.

RAILWAY TRAFFIC.—From our official returns, it appears that the amount of traffic for the last week, on nearly 1800 miles of railway, was 177,944*l.*, thus accounted for:—95,061*l.* for the conveyance of passengers only, 37,304*l.* for the carriage of goods, and a remainder of 45,679*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 35,362*l.*—*Railway Chronicle*, of this day.

NEW PATENTS AND REGISTRATIONS.

Extracts from the Mechanics' Magazine Weekly List of English Patents:—

A. Lamb, engineer to the Oriental and Peninsular Steam Company, Southampton, for self-acting blow-off apparatus.

J. Stenton, Luton-beds, for a double glass holder for an oil lamp.

J Pattinson, Bishop Wearmouth, Durham, for improved revolving wood shutter.

Robinson and Bussell, Westmoreland-street Dublin, Bradshaw's British valve.

A. V. Newton, Chancery-lane, for improvements in the method of hardening and tempering various articles made of steel, or of iron and steel combined; being a communication.

H. Deacon, Eccleston, Lancashire, engineer, for improvements in the construction of flattening kilns.

C. Fox, London Works, near Birmingham, engineer, for improved machinery for shearing, cutting, and punching metals.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 15 3—Carr's Hartley 15 3—Husting's Hartley 15 3—Holywell Main 15 6—New Tanfield 13—North Percy Hartley 15—Townley 14 6—West Hartley 15 3—West Wylam 15 6—Eden Main 16 6—Cowpen Hartley 15 3—Derwentwater Hartley 15—Sidney's Hartley 15 3—Wall's End Bell and Browne 16 3—Bewicke and Co. 16 3—Hilda 16—Killingworth 15 9—Ramsey 14—Walker 16—Wharncliffe 16 3—Belmont 17—Braddyll's Hetton 17 9—East Hetton 16 3—Hetton 17 9—Lambton 17 6—Richmund 16 6—Wearmouth 17—Kelloe 17 6—Adelaide 16 9—Barrett 16 6—Cowndon Tees 16 3—Gordon 15.—Ships at market, 65; sold, 55; unsold 10.

WEDNESDAY.—Carr's Hartley 15 9—Doan's Primrose 13—West Hartley 15 9—Eden Main 16 6—Cowpen Hartley 15 9—Wall's End Bell and Brown, 16 6—Killingworth 16—Wharncliffe 16 3—Belmont 17—Finchal 16—Hetton 17 9—Lambton 17 6—Russell's Hetton 17 6—Whitwell 16—Hartlepool 17 9—South Kelloe 17—Thornley 16 6—Adelaide Tees 17 to 17 3—Seymour Tees 16 6—Tees 17 6.—Ships, 44; sold, 34; unsold, 10.

FRIDAY.—Wall's End Walker 16 6—Belmont 17—Braddyll's Hetton 18 3—Haswell 18—Lambton 17 9—Kelloe 18—Seymour Tees 16 9—Tees 17 9.—Ships at market, 14.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—

Silver coin to Hamburgh..... 12,000 ounces.

THE SALT TRADE—MEETING OF MANUFACTURERS.

A meeting of the salt-manufacturers resident in Blackburn and its neighbourhood was held on Monday last, at the hotel, King-street, to take into consideration the important question of the East India Company's salt monopoly. The meeting was most numerously attended.

Mr. M. J. FIELDEN was called to the chair, and opened the business of the meeting by announcing that Mr. Stoegueler (the honorary secretary of the salt trade of this country) was present, and would explain the working and prejudicial effects of the existing system under the Hon. East India Company's salt monopoly, and suggest for consideration a course of action by which this meeting might aid in procuring its abolition, and consequent advantages.

Mr. STOCQUELER then addressed the meeting, and entered at great length into the question of the admission of British salt into India upon fair and reasonable terms. He had not the least hesitation in advocating the destruction of this baneful monopoly, because the advantage supposed to be derived from its continuance was purely imaginative, and at the most could only benefit a limited and very wealthy body, whereas its total abolition would be an unquestionable and immediate blessing to millions of our fellow-creatures in India, and would be followed by solid and lasting benefits to the manufacturing, the shipping, the commercial, in short, to all the interests in this country, of the poor as well as of the rich. The 46,000,000 of persons who inhabited the districts in which the monopoly prevailed, and all those who lived in the countries into which the company's salt was transmitted, were compelled to pay for the article 75 per cent. more than it could be purchased for in Liverpool. The price charged by the company at present for 8200 lbs. of salt was 9360 pence, or above 1¼d. per lb. The price of Cheshire and Worcestershire salt, of a quality far superior to that made in India, was 20*s.* per ton, or 1*s.* only for 112 lbs., something very much under half a farthing per lb. In England, when the salt which entered into our own articles of food was so concealed that we were almost unconscious of its presence, we could not form an adequate idea of the importance of the commodity to the wretched Hindoo rustic. It was almost his only, certainly his chief, condiment—and to obtain it, so miserably disproportionate were his earnings to his actual wants, that he sacrificed 10 weeks' labour per annum for a supply. All he then obtained was 12 lbs. for each adult person, a quantity less by 8 lbs. than the Government, judging by the supplies to their troops, considered necessary for the poorest classes of Hindoos; and, consequently, leaving him none for his cattle, none for purposes of manure, none for any purpose but that of partially seasoning his own insipid food.

After several other gentlemen had addressed the meeting, and advocated the necessity of destroying in a great part the present monopoly enjoyed by the East India Company, resolutions were unanimously passed, to the effect that the East India Company's monopoly of the manufacture of salt in the East Indies, was not only extremely oppressive to the natives of that country, but injurious to the manufacturing interests of Great Britain, by limiting within very narrow bounds the capabilities of the natives to purchase the other necessaries of life.

An influential committee was appointed to promote the object in view, and the meeting separated.—Some remarks on the subject appear elsewhere.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Twelve o'clock.

Bank Stock, 7 per Cent., —
3 per Cent. Reduced Ann., 96¾
3 per Cent. Consols Ann., 95⅝ ¼
3 per Cent. Annuities, 95
3½ per Cent. Ann., —
Long Annuities, —
India Stock, 10½ per Cent., 259 61
3 per Cent. Consols for Acc., 95⅝
Exchequer Bills, 1000*l.*, 11 14 pm.

Belgian Bonds, 4½ per Cent., 97⅞
Dutch, 2½ per Cent., 59½ ⅝
Brazilian, 5 per Cents., 88
Chilian, 6 per Cents., 101
Mexican, 5 per Cents., 25½ 4½
Spanish, 5 per Cents., 26½ ⅝
Ditto Deferred, 16⅝
Portuguese, 4 per Cents., 40½
Russian, 5 per Cents., 111

RAILWAYS.—The share market continues in the same languid and unsatisfactory state, and speculators appear to have entirely abandoned the excitement of Capel-court, and its purlieus, to enjoy the recreations of country sport. The meeting of the North Staffordshire and Potteries Company, held on Wednesday, has had rather an unfavourable effect on the prices of their shares, bargains having been done at below 3pm. The principal business has been confined to Birmingham and Oxford Junction; Bristol and Exeter; Cornwall; East Lancashire; Liverpool, Manchester, and Newcastle Junction; London and North-Western; South-Eastern; and a few other lines—but only on a very limited scale. The foreign shares have experienced the same stagnation.

MEETINGS.—*Shrewsbury and Birmingham:* the first general meeting was held on the 19th instant, at Shrewsbury. The directors' report announced that the shares registered amount to 47,000; and in order to complete the register, the remainder would be put into the names of the original allottees; and that they had taken power in the Act to allow 4 per cent. on the deposit, and on all future calls. The receipts up to August were 162,500*l.*, and expenditure 85,516*l.* The secretary then read the report presented at the first general meeting of the Birmingham, Wolverhampton, and Stour Valley, with which the Shrewsbury and Birmingham had become partly allied.—*Irish Midland Great Western:* the half-yearly meeting was held at Dublin, on the 18th instant, when the report and statement of accounts presented were very favourable.—*Glasgow, Paisley, and Greenock:* the half-yearly meeting was held on the 19th instant. The receipts for the half-year amounted to 26,099*l.* 19*s.*; the expenses, 14,725*l.* 15*s.*—leaving a balance of 11,374*l.* 8*s.*—*Guildford Junction:* a general meeting was held at the London Tavern, on Monday. The report stated that, after liquidating all claims, there remained in hand a balance of 3100*l.*, divisible among the proprietors, being 2*l.* 16*s.* 4*d.* on each of the 1100 shares—out of which surplus 2*l.* 5*s.* was to be divided; leaving a balance of 625*l.* at the disposal of the directors.—*East and West India Docks and Birmingham Junction:* the first general meeting was held the same day, at their offices, 5, Church-passage, Cornhill; the balance in hand was 51,285*l.*—*Great Eastern and Western:* an adjourned meeting of the scripholders was held at the London Tavern, on the same day, when there appeared for the dissolution, 9295; but as 13,500 are required to make up the one-third, it was adjourned.—*Windsor, Slough, and Staines Atmospheric:* a meeting of the scripholders for proposed amalgamation with the South-Western, was held on Tuesday, at Windsor. The report was approved of, and a committee appointed.—*Enfield and Edmonton:* the first meeting was held the same day, at the London Tavern, when, after paying all Parliamentary and other expenses, there remained a balance of 2066*l.* in the bankers' hands.—*Trinidad, Great Eastern, and Western:* adjourned meeting; a meeting took place at the Hall of Commerce, on Tuesday, when, after much discussion, it was agreed that a letter should be written individually to every director, signed by the chairman of the committee, requesting, by the 1st of October, a statement of their affairs; and, in the event of such request not being complied with, it was unanimously resolved to convene a meeting of the shareholders, by advertisement, to adopt proceedings against the directors.—*Great Eastern and Western:* dissolution; a meeting was held on Wednesday, at the Guildhall Coffee-House, under Lord Dalhousie's Act, when it was resolved, that the company should be dissolved; but that the dissolution should not be taken to be an act of bankruptcy.—*Trent Valley, Midlands, and Grand Junction:* the first meeting, since the obtainment of their Act, was held at their offices, 19, Great George-street, Westminster, when it appeared, there was a balance in hand of 60,790*l.*; the meeting was then made special, and the proposed agreement with the South Staffordshire Company was confirmed. The capital to be provided by that company is to be 525,000*l.*, while that of the Trent Valley would be 425,000*l.* The chairman said, the line was easy of construction; that it passed through a rich mineral district, and one that was densely populated, so that there is little doubt it will pay well.—*North Staffordshire:* a meeting was held on Wednesday, at Stoke-upon-Trent, John Lewis Ricardo, Esq., M.P., in the chair; Mr. Samuda, the secretary, read the report, from which it appears that, after paying the expenditure from opposing nineteen other lines, being about 16*s.* 9*d.* per share, the funds of the company were promising. Contracts for a large supply of iron rails, which had been made upon favourable terms, and every necessary measure, had been taken for insuring the completion of the railway at the earliest possible period. In order to carry out this intention, it would be necessary to make a call of 2*l.* 18*s.* per share, payable on the 1st of December next. It was recommended that the board of directors be reduced to 17, including the chairman; the report was received with applause. After the meeting, the directors had a sumptuous *dejeuner* in the great room of the Town Hall, when upwards of 200 gentlemen and 100 ladies were invited on the occasion of the inauguration of the works, and a procession closed the hilarity and proceedings of the day.—*Gloucester, Aberystwith, and Central Wales:* an adjourned meeting of the shareholders was held yesterday, at the London Tavern—none of the officers of the company being present, neither the chairman (the Hon. H. Berkeley), or any of the directors, solicitor, or secretary, in consequence of which, shortly after two o'clock, Mr. Knox was unanimously called to the chair. From the results of the accounts submitted at the last meeting, it would appear that the solicitors and agents of the company had been paid 8273*l.*, and there was still due to them 951*l.*—making a total of 17,787*l.* The engineers and surveyors had been paid 6084*l.*, and there remained due 4021*l.*—making a total of 10,105*l.* For printing, stationery, and advertising, 2484*l.*; tradesmen's accounts, to the amount of 1837*l.*, had been paid, and 872*l.* remained due; for secretary's superintendence, office, &c., 2164*l.* paid, and 300*l.* due. The assets nominally of the company were 22,484*l.*, of which sum, it has been said, 16,097*l.* had been applied to the purchase of shares, about 4000*l.* had been attached in a law suit, 164*l.* was due from another company, 1800*l.* was named as the value of the lease and fixtures, and only 374*l.* was in their banker's hands, to meet claims amounting to 14,716*l.* After this *exposé*, against which the shareholders marked their indignation at the conduct of the directors, the scrutineers proceeded to take the votes, which were 7763; of that number 7528 voted for the dissolution, and 235 against it; 1838 voted for the dissolution being an act of bankruptcy, and 5780 against its being so. There not being a sufficient number of voters present to constitute a meeting under the Act, that could declare the company dissolved, the meeting broke up. Another meeting of the shareholders was then held—Mr. Knox in the chair—when it

was unanimously resolved, that the committee of shareholders should call a public meeting, for the purpose of considering what measures should be taken to promote their interest, and obtain justice from the directors.—A further adjourned meeting of the scripholders of the *Great Eastern and Western* was held yesterday, but when the votes were taken, the total for dissolution were found to be 10,305, which is considerably short of the number required by the Act; subsequently, a resolution in condemnation of the explanations given by the chairman of the company, and for continuing the committee for the protection of the interests of the shareholders, was passed unanimously.

General Pasley went over the lines of the Lancaster and Carlisle, and the Windermere from Lancaster to Kendal, yesterday week, and granted the Government certificate for one line.—The works of the Great Southern and Western will commence in Mallow and Cork, in about three weeks.—The lease of the Hull and Selby amalgamation has been ratified and confirmed in perpetuity to the York and North Midland.—The Rugby and Leamington line has been sold to the London and North Western, at 5*l.* premium on the 20*l.* shares, or 4*l.* on the 16*l.* shares.

HULL, THURSDAY.—The transactions, since our last, have been insignificant in amount—most railway men are too full of stock materially to increase their interests, although the inducements to do so are numerous. Flat markets are good ones to buy in; and those who exercise patience will, doubtless, in the end, reap their reward. Ormskirks seem cheap at the present price, should the amalgamation with the East Lancashire be carried.

RAILWAY SHARE LIST.

RAILWAYS.	Paid	Closing pr. last week.	Closing pr. last night.
Aberdeen	£15	14½	14½
Amber, Nottingham, Boston, and Erewash Junction	2¼	2	2¼
Armagh, Coleraine, and Portrush—25*l.* shares	1½		
Birmingham and Gloucester—100*l* shares	100	130	130
Birmingham and Oxford Junction—20*l* shares	2	5½	5½
Bristol and Exeter—100*l* shares	70	85½	84½
Bristol and Gloucester—50*l* per share	30	51	51
Caledonian—50*l* per share	20	15½	15½
Chester and Holyhead—50*l* shares	27½	24½	24½
Direct Northern—50*l* shares	2¼		1½
Direct Manchester (Remington's)—20*l* shares	2½	—	—
Ditto Rastrick's	5¼	—	—
Dublin and Galway—50*l* shares	4		—
Dundalk and Enniskillen—50*l* shares	7½	6½ dis.	
Eastern Counties—25*l* shares	14*l* 16*s*	22	21½
East Lincolnshire	1½	½	½
Edinburgh and Glasgow—50*l* shares	50	70	72
Edinburgh and Northern	10	12½	12½
Edinburgh and Perth	3	2½	2½
Exeter, Yeovil, and Dorchester—50*l* shares	5½	3½	—
Goole and Doncaster—20*l* shares	42*s*	—	¾ dis.
Grand Union (Nottingham and Lynn)	1½		—
Great Southern and Western (Ireland)—50*l.* shares	15	30½	31½
Great North of England—100*l* shares	100	229	229
Great Western—100*l* shares	85	140	138
Guildford, Farnham, and Portsmouth—50*l.* shares	5	—	—
Hull and Selby—50*l* shares	50	105½	105½
Lancaster and Carlisle—50*l* shares	45	61	62
Leeds and Bradford	26	70½	70½
Leeds and Carlisle	2½	—	—
Leicester and Birmingham—20*l* shares	22*s*	—	¾ dis.
Leicester and Bedford—20*l* shares	22*s*	¾ dis.	dis.
Leicester and Tamworth—20*l* shares	42*s*	par	par
Liverpool, Manchester, and Newcastle Junction	2½	2	1¾
London and North Western	stock.	201	200
London and Blackwall	Av. 16*l* 13*s* 4*d*	7½	8
London and Brighton—50*l* shares	50	60½	59½
London and Croydon	Av. 13*l* 15*s* 9*d*	22	21½
London and Greenwich	Av. 12*l* 15*s* 4*d*	8½	9½
London and South Western	Av. 41*l* 6*s* 10*d*	70½	69½
London and York—50*l* shares	2½	2	2
London, Salisbury, and Yeovil—50*l* shares	2½	1	1½
Londonderry and Coleraine—50*l* shares	2½	—	4½
Lynn and Ely—25*l.* shares	15	16½	16½
Lynn and Dereham—25*l* shares	15	13	—
Manchester and Leeds—100*l* shares	82	110½	108
Manchester and Birmingham—40*l* shares	40	76½	76
Manchester, Buxton, and Matlock—20*l* shares	42*s*	1½ pm.	1½ pm.
Manchester and Southampton	2	1½	1
Midland	Stock	139	137½
Ditto Birmingham and Derby	Stock	—	111
Newcastle and Berwick—25*l* shares	15	27½	26½
Newcastle and Carlisle—100*l* shares	100	—	—
Newcastle and Darlington Junction—25*l* shares	25	—	—
Ditto New (Brandling)—25*l* shares	20	—	—
Newark, Sheffield, and Boston—25*l* shares	2½	—	—
Norfolk	Stock 100*l*	134	133
North British—25*l* shares	25	36½	35½
Northern and Eastern—50*l* shares	45	70	72
North Kent and Direct Dover—50*l* shares	2½	1½	—
North Staffordshire—20*l* shares	42*s*	3½ pm.	2½ pm.
Oxford, Worcester, and Wolverhampton	12½	8	7½
Portsmouth Direct—50*l* shares	3½	4½	4½
Preston and Wyre—50*l* shares	50	34½	31½
Richmond—20*l* shares	5	—	—
Scottish Central—25*l* shares	12½	18½	20
Scottish Midland—25*l* shares	10	—	7½
Sheffield and Manchester—100*l* shares	100		—
Shrewsbury and Birmingham	2½	2½	
South Devon—50*l* shares	35		32 4
South Eastern and Dover	Av. 33*l* 2*s* 4*d*	40½	39½
South Midland—20*l* shares	42*s*	—	—
South Wales—50*l* shares	5	4½	1
Vale of Neath	2	—	—
Waterford and Kilkenny	8	2½	4½ dis.
Welsh Midland	2½	—	—
West Riding Union	42	2½ pm.	2½ pm.
Wilts, Somerset, and Weymouth—50*l* shares	10	5	5
York and Carlisle	2½	—	2 dis.
York and North Midland—50*l* shares	50	98	94
Ditto Selby—50*l* shares	30	71½	42 pm.
FOREIGN RAILWAYS.			
Boulogne and Amiens—20*l* shares	14	13½	14½
Bordeaux and Toulouse and Cette (Mackenzie)—20*l* shares	2		1½
Bordeaux, Toulouse, and Cette (Espalete)—20*l.* shares	2		1½
Central of Spain—20*l* shares	2		1
Dutch Rhenish—20*l* shares	5	5	5½
East Indian	¼		¾
Great Northern of France (constituted)	5	14	13½
Great Western Bengal	½		½
Jamaica and South Midland Junction—20*l* shares	1	—	—
Louvaine and Jemappe—20*l* shares	5	½	—
Lyons and Avignon—20*l* shares	2	1½	—
Luxembourg	4	1½	1½
Namur and Liege—20*l* shares	6	2	1½
Orleans and Vierzon—20*l* shares	10	15	14½
Orleans and Bordeaux—20*l* shares	6	8½	8½
Paris and St. Quentin—20*l* per share	2		
Paris and Orleans—20*l* shares	20	48½	49
Paris and Rouen—20*l* shares	20	37½	37½
Rouen and Havre—20*l* shares	18	28	27 8
Sambre and Meuse—20*l* shares	6	3½	3½
Strasburg and Basle—14*l* shares	14		8 9
West Flanders	4	3½	3½

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Last Div.	Traffic Returns. 1846			1845
Arbroath and Forfar	15	£142,900	3 *p.c.*	£183	3	7	£212
Chester and Birkenhead	15	589,362	2½	777	0	4	738
Dublin and Drogheda	32	631,258	3½	933	5	2	877
Dublin and Kingstown	6	349,736	9	1091	15	4	1095
Dundee and Arbroath	17	153,598	6	346	16	8½	335
Durham and Sunderland	19	302,118	2	504	1	0	869
E. Counties & North. & East.	145½	4,090,328	5	10129	14	2	5098
Eastern Union	—	—	—	586	3	9	—
Edinburgh and Glasgow	46	1,686,226	6	4507	17	6	3028
Glasgow, Paisley, and Ayr	51	1,104,773	7	5505	7	10	2060
Glasgow, Paisley, & Greenock	23	806,134	2	1209	11	1	1091
Gravesend and Rochester	7	82,828	—	—			214
Great Western	245½	8,179,980	8	20417	14	4	18101
Hartlepool	—	—	—	971	19	2	1378
London and North Western	440½	15,047,301	10	44351	15	3	20913
London and Blackwall	4	1,078,761	1½	1296	10	8	859
London & Brighton & South Coast	113	3,496,265	5	11000	6	0	6556
London and South-Western	100	2,620,724	10½	8307	6	7	8098
Manchester & Leeds	61	3,372,240	8	8104	7	6½	8460
Manchester, Bolton, & Bury	10	842,725	5½	1266	18	10	1028
Midland Company	259½	8,831,195	7	23217	4	2	20698
Newcastle and Carlisle	65	1,137,385	5	2298	3	5	2054
Norfolk	59	573,818	5	1739	8	6	1746
North British	58½	1,459,957	—	2004	6	1	—
Preston and Wyre	22	432,014	2½	1176	14	8	770
Sheffield and Manchester	41½	1,313,225	5	2819	0	9	1748
South Devon	15	520,942	—	606	11	4	—
South-Eastern and Dover	[illegible]	4,284,924	3½	11504	10	9	7668
Taff Vale	[illegible]	648,348	5	1464	19	2	1144
Ulster	25	358,353	5½	785	17	10	552
York and North Midland	84	2,334,599	10	7747	18	4	6216
Northern of France	260	—	4	9216	0	0	—
Orleans and Bordeaux	72	599,040	4	3223	0	0	—
Paris and Orleans	82	2,082,916	9½	1748	11	7	6805
Paris and Rouen	85	1,995,306	8	8199	0	0	7111

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Sept. 19, was 17,300; amount of money, £71 13s. 4d.

PRICES OF MINING SHARES.

Shares.	BRITISH MINES. Company.	Paid.	Price.
1024	Alfred Consols	3¼	32½
235	Andrew and Nangiles	25½	25
1000	Barristown	4½	30
4000	Bedford	2½	2½
128	Besore Lead Mine	14	30
320	Birch Tor Tin Mine	10	6
8000	Blaenavon	30	40
256	Bodwannick	3	—
100	Botallack	175	300
120	Brewer	—	5
10000	British Iron, New, regis.	10	19
—	Ditto ditto, scrip	10	19
128	Budnick Consols	52½	45
100	Bwlch Cwmerfin	20	—
1000	Callington	19	22
256	Caradon Consols	45	25
256	Caradon Copper Mine	9¼	
256	Caradon Mines	15	24
256	Caradon United	21	12
256	Caradon Wh. Hooper	12	7
1000	Carn Brea	15	100
114	Charlestown	—	200
166	Cleveland	7½	6½
1900	Combmartin	5½	4½
1000	Comblawn	2½	—
128	Comfort	—	40
5000	Con. Tretoil Mining Ass.	3½	1½
128	Condurrow	36	55
2560	Cook's Kitchen	—	4
1000	Copper Bottom	1	5
1024	Cosheen	4½	30
240	Cradlock Moor	14	25
128	Creeg Braws	120	200
500	Cubert Mine	11	30
7100	Derwent	8½	5
1024	Devon & Courtney Con.	4	5
1000	Dhurode	2	5
186	Dolcoath	—	50
10000	Durham County Coal	45	9
256	East Alvenney	3	16
128	East Pool	5	20
9000	East Tamar Consols	1½	3½
—	East Wheal Albert	1	3
94	East Wheal Crofty	—	300
256	East Wheal Kitty	¼	½
128	East Wheal Rose	50	1100
123	East Wheal Seton	2½	12
512	Fowey Consols	—	40
20000	Galvanised Iron Co.	10	10
10000	Gen. Mining Co. for Irel.	½	¾
1000	Godolphin	—	
256	Gonamena	19	85
128	Gover	23	200
244½	Grambler & St. Aubyn	—	21
100	Great Consols	1000	400
256	Great Calestick Moors	6½	12
2560	Great Mitchel Consols	—	3
256	Great Resugga Moor	1½	8
512	Gt. Wh. Rough Torr Con.	1	5
100	Grogwinion	5	—
1000	Gunnis Lake	1½	3
1000	Hanson	1½	3
1000	Harrowbarrow Old Mine	4½	3½
1000	Harrowbarrow Consols	2	1½
800	Hawkmoor	3	2
6000	Heignston Down Con.	1	2
256	Herodsfoot	14	10
10000	Hibernian	12½	1
—	Hobb's Hill	—	5
1000	Holmbush	18	10
256	Ivy Tor	1½	2½
827	Kirkcudbrightshire	2½	3½
2048	Lamherooe Wh. Maria	8	5½
2048	Lanivet Consols	2	4½
200	Larkholes	1	3
160	Levant	—	90
1000	Lewis	15	3
1280	Llancynfelin	6	10
128	Ludcott	8	3
4000	Marke Valley	10	3½
5000	Mendip Hills	1½	1½
20000	Mining Co. of Ireland	7	12
200	Nanterrow Consols	14½	10
128	New East Crowndale	2	3½
128	North Fowey Consols	15	20
100	North Pool	11	51
70	North Roskear	10½	400
256	North Treburget	2½	4
100	North United	41	20
256	North Wh. Leisure	1½	6
128	North Wh. Providence	2½	10
256	North Wheal Rose	26½	15
15000	Northern Coal Co.	23	2
600	Old Delabole Slate Co.	25	45
128	Par Consols	—	900
256	Penhallow Moor	15	4
6000	Pennant	1	1½
100	Penrhiw	30	65
128	Pen-y-Cefn Mine	50	55
1280	Perran St. George Un.	13	30
128	Perran Wh. Virgin	9½	45
512	Plymouth Wh. Yeoland	1½	3½
2048	Prince Edward	1½	1
10000	Rhymney Iron	50	25
256	Rose Consols	10	3
1000	Rosewall Hill	1	3½
2500	Silver Valley	3	2
256	Sourton Consols	3½	5
128	South Caradon	10	350
2000	South Dolcoath	2	—
256	Sth. Friendsh. Wh. Ann	7½	—
200	South Harvannah	23	26
800	South Towan	10	1½
256	South Trelawney	12½	7
128	South Yeoland	16½	20
128	South Wheal Basset	—	130
124	South Wh. Francis	67	100

Shares.	BRITISH MINES—*continued.* Company.	Paid	Price.
256	South Wh. Hope	—	5
1000	South Wh. Maria	2½	2½
256	South Wheal Rose	11½	1
10000	Southern & Western, Irish	1	2
256	St. Austell Consols	7	20
94	St. Ives Consols	—	600
1000	Stray Park	43	20
9600	Tamar Consols	3	5
6000	Tincroft	7	10
256	Ting Tang	80	17
128	Tokenbury	124	25
256	Trehane	—	20
1024	Trelawney Consols	1½	1½
5000	Treleigh Consols	6	3½
256	Trenow Consols	—	110
96	Tresavean	10	250
120	Trethellan	5	35
120	Treviskey and Barrier	61	135
256	Trewallack	—	16
128	Trewellard	12	25½
4000	United Hills	5	7½
100	United Mines	300	800
128	West Basset	45	15
256	West Caradon	20	260
128	West Cargoll	2	12
512	West Fowey Consols	40	35
—	West Kekewich Consols	—	3½
256	Wheal Kekewich	4	6
256	West Providence	—	10
200	West Seton	—	44
120	West Trethellan	5	35
256	West United Hills	2½	3½
250	West Wh. Friendship	7½	5
3845	West Wheal Jewel	11	1½
2560	West Wh. Maria	½	2½
2560	West Wh. Mitchell	—	2
256	West Wheal Shepherd	—	6
256	West Wheal Tolgus	21½	12
256	West Wheal Treasury	12	8
240	Westerlake	3	3
6000	Wicklow Copper	5	10½
1000	Wheal Agar	—	—
256	Wheal Albert	10	8
128	Wheal Arland	13	2
256	Wheal Allen	½	4
368	Wheal Anderton	10½	11½
128	Wheal Ann	—	50
128	Wheal Arvose	2	10
256	Wheal Blencowe	—	15
256	Wheal Bian Consols	½	3
256	Wheal Cleveland	7	6½
136	Wheal Clifford	—	190
1024	Wheal Concord	6½	4½
256	Wheal Fortescue	4½	8
256	Wheal Frederick	3	20
384	Wheal Franco	22	21
256	Wheal Gill	19½	22
1000	Wheal Harriet	1	—
2048	Wheal Holwell	1½	1½
109	Wheal Hope (Zennor)	23	25
256	Wheal Hope	7	1½
256	Wheal Jane	6	40
265	Wheal Kendall	11½	5
256	Wheal Louisa	5½	7
1024	Wheal Maria	1	450
4000	Wheal Martha Consols	4	9½
256	Wheal Mary Ann	5	85
1024	Wheal Mary (Calstock)	2½	1½
256	Wheal Mary Consols	25	22
256	Wheal Mexico	5	5
256	Wheal Mary Lanivet	2½	8
256	Wheal Mary Pentuan	1	2
256	Wheal Norris	9	3
128	Wheal Pollard	11½	12
128	Wheal Prospect	4	9
128	Wheal Providence	34	40
128	Wheal Reeth	1	60
256	Wheal Robins	13	½
128	Wheal Rose	40	25
256	Wheal Salusbury	13	1
512	Wheal Sarah	2½	5
99	Wheal Seton	150	835
1024	Wheal Spearne	1½	8
256	Wheal Sisters	25½	20
128	Wheal St. Cleer	21½	15
260	Wheal Trelawney	7½	110
256	Wheal Trevenna	3½	1
256	Wheal Trewennan	—	10
128	Wheal Venland	12½	10
256	Wheal Victoria	2	2
127	Wheal Virgin	—	50
1024	Wheal Walter	4	4
256	Wheal Williams	2	21
	FOREIGN MINES.		
5000	Alten Mining Company	14½	3½
15000	Asturian Mining Co.	6	3
10000	Anglo-Mexican Co.	100	8
3374	Ditto Subscription	25	4
2000	Bolanos	150	4½
12000	Ditto Scrip	15	3
10000	Brazilian Imperial	20	4
12000	Cobre Copper Co.	40	23
8500	Colombian Co. regis.	55	} 4½
5000	Ditto Scrip	—	
10000	Copiapo Mining Co.	14	1
20000	General Mining Ass'n.	20	15½
5051	Mexican Company	59	5
12000	Mocambas & Cocaes	25	6—7
29320	{ Rl. del Monte, regis. / Ditto unregistered }	28½	av. 3½
	Ditto Red Debentures	—	19
	Ditto Black ditto	—	17
	Ditto Loan Notes	150	117
7000	Royal Santiago	10	16
2000	Pachuca Mines	3	3½
11000	St. John del Rey	15	9½
43174	United Mexican	28½	3½

LATEST CURRENT PRICES OF METALS.

LONDON, SEPTEMBER 25, 1845.

	£	s.	£	s.	d.
IRON—Bar *a*..Wales..*ton*	0	0—	8	15	0
„ ..London	0	0—	9	15	0
Nail rods „	0	0—	10	10	0
Hoop (Staf.) „	0	0—	11	10	0
Sheet „ „	0	0—	13	0	0
Bars „ „	0	0—	11	0	0
Welsh cold-blast foundry pig	0	0—	5	5	0
Scotch pig *b*, Clyde	3	13 6	3	15	0
Rails, average	9	15—	10	0	0
Russian, CCND *c*	0	0—	—		
„ PSI	0	0—	—		
„ Gourieff	0	0—	—		
„ Archangel	0	0—	13	10	0
Swedish *d*, on the spot	11	0—	11	10	0
„ Steel, fagt.	0	0—	16	5	0
„ „ kegs	0	0—	13	10	0
COPPER—Tile *f*	0	0—	87	10	0
Tough cake	0	0—	88	10	0
Best selected	0	0—	91	10	0
COPPER—Ordin. sheets, *lb.*	0	0—	0	0	10
„ bottoms	0	0—	0	0	11
TIN—Com. blocks *g*..*cwt.*	0	0—	4	15	0
„ bars	0	0—	4	16	6
Refined	0	0—	4	18	0
Straits *h*	0	0—	4	13	0
Banca	0	0—	4	15	0
TIN-PLATES—Ch., IC *i*, *box*	1	9—	1	11	0
„ IX	1	15—	1	17	0
Coke, IC	1	5 6	1	6	0
„ IX	1	11 6	1	12	0
LEAD—Sheet *k*..*ton*	0	0—	19	10	0
Pig, refined	0	0—	21	5	0
„ common	0	0—	18	10	0
„ Spanish, in bd.	0	0—	17	10	0
„ American	0	0—	18	0	0
SPELTER—(Cake) *l*	18	15—	19	0	0
ZINC—(Sheet) *m* export.*	0	0—	28	0	0
QUICKSILVER *n*..*lb.*	0	0—	0	4	6
REFINED METAL ..*ton*	0	0—	—		

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto.

[*From our Correspondent.*]

IRON.—Welsh and Staffordshire firm at quotations of last week's *Mining Journal*. Scotch pig a shade lower, with a rather heavy appearance. Several large purchases of rails this week by railway companies, at 9*l.* 15*s.* to 10*l.* A few sales this week of Swedish iron and steel.—COPPER continues in fair demand.

TIN.—Our quotations for English are nominal—the smelters being still without supplies; but the prices we quote have been paid this week for small quantities. Straits and Banca very scarce, and several parcels have been sold this week at quotations. Straits, for arrival, may be quoted at 1s. to 2s. less.

TIN-PLATES and LEAD remain steady at last week's prices.

SPELTER is very dull—no sale having been reported for the whole week, except a lot of 50 tons, at 18*l.* 12*s.* 6d., ex ship.

[*Communicated by Messrs. Whitcomb and Barton, Old Broad-street.*]

There has been no change in the price of English bar-iron this week, which may be quoted firm at 9*l.* in Wales. Welsh and Staffordshire pig-iron are in fair demand, particularly the latter, for which higher rates have been paid. In Scotch, the business done this week has been rather more limited; we quote the price firm at 74s. cash, for mixed numbers. A sale of spelter is reported as 18*l.* 12s. 6d. over ship's side.—In other metals no alteration.

GLASGOW PIG-IRON TRADE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Prices, within these few days, have somewhat declined, which has occasioned a brisker demand than we have had for some time. We quote the price to-day at 71s. to 72s. for No. 3; 73s. 6d. for mixed Nos.; and 75s. to 76s. for No. 1—cash in 14 days, free on board here. For immediate cash, something less than our quotations has been accepted for No. 1.—*Glasgow, Sept. 23.* DOUGLAS & HILL, Metal Brokers.

NEW YORK, AUG. 31.—The general appearance of the iron market is without change. We notice the following sales—100 tons of Swedes, at $82 50, nine months, from ship; a few hundred tons of Scotch pig, afloat, $32, cash; and some Norway, at about previous quotations. PSI Russia old sable is inquired for. Nothing doing in English bar-iron.—Missouri pig-lead remains firm—we do not hear of any transactions; holders are asking more than they are likely to obtain.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY......Taw Vale Railway and Dock Company—London Tavern, at One.
Italian and Austrian Railway—London Tavern, at One.

TUESDAY......Vale of Neath Railway—offices, at Two
Larne, Belfast, and Balymena Railway—London Tavern, at Twelve.

WEDNESDAY...Wheal Robins Mining Company—Liskeard, at Three.
Société de la Nouvelle Montagne à Verviers, Engis—Liege, at Ten.
New Zealand Company—offices, at One.

FRIDAY........Eagle Insurance Company—offices, at Twelve for One.
Armagh, Coleraine, and Portrush Railway—London Tavern, at Twelve.

STEAM COMMUNICATION WITH AUSTRALIA AND NEW ZEALAND.—The committee on Australian steam communication held another of their meetings on Thursday, at their committee-rooms, No. 30, Great Winchester-street, Broad-street, for the dispatch of business, when the following gentlemen were present:—Sir G. H. Larpent, Bart. (in the chair), the Hon. F. Scott, M.P., H. T. Prinsep, Esq., J. W. Sutherland, Esq., Mark Boyd, Esq., S. Browning, Esq., Capt. J. Barber, G. Hay Donaldson, Esq., J. Lambert, Esq., J. Montefiore, Esq., &c., and Anthony G. Robinson, Esq., honorary secretary.

THE GREAT BRITAIN STEAM-SHIP.—The steam-giant of the ocean, now aground in Dundrum Bay, has been rather unfortunate from the commencement of her career. This is not her first casualty, and there is a disposition, in certain quarters conversant with such matters, to construe the occurrences in a sense favourable to certain objections previously entertained and expressed. It is objected that steam-ships transcending certain limits of bulk, become disproportionately difficult of management in bad or blowing weather to smaller ones. Again, it is objected that the screw-propeller is not so safe and powerful an instrument of propulsion, so far as yet perfected, as the paddle-wheel. It is observed that the same causes which would unship, carry away, or damage a rudder, might so derange or damage the screw as to render it totally unserviceable. The loss of a rudder might be repaired, and the keel of a ship destroyed might be replaced by a false keel; but the screw, in a similar case, it is said, could neither be repaired nor replaced. It remains to be seen how, in the present instance, the screw of the *Great Britain* may have fared; and whether it shall be sufficiently service-worthy to carry the ship out of her dangerous quarters, when the tide shall be full enough to float her.

Whilst upon this subject, it may not be out of place to observe that, the tenor of recent experiments in the United States, as well as steam-boat practice there, would seem to establish the fact, that anthracite is much superior to bituminous coal for generating steam. It was found on trials carefully made, that whereas 1 lb. of Lehigh anthracite evaporated 9·52—100 lbs. water; the Nova Scotia bituminous coal, so highly spoken of and esteemed, evaporated only 4·47—100. The superiority of the anthracite results chiefly, as averred, from the superior quality of heat produced, partly from the greater facility with which the heat is brought into action. The vast quantity of smoke and gas emitted from bituminous coal carries off with it a great proportion of heat, which is so much waste. The superior speed of American river and other steamers using anthracite, is accounted for from these circumstances; and it is contended, that if the same fuel were applied to Atlantic navigation, the same results of speed and economy would be attained. The anthracite coal, it is contended, is worth more than double the weight of bituminous coal (Nova Scotia) for generating steam. It is incontestable that the American steamers attain a rate of speed much surpassing what is known here.—*Daily News.*

COPPER ORES.

Sampled Sept. 9, and sold at Pearce's Hotel, Truro, Sept. 24, 1846.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
Consolidated	90	£4 18 6	Perran St. George	41	£3 14 0
ditto	80	5 1 0	ditto	38	5 11 0
ditto	79	8 7 6	ditto	23	6 1 0
ditto	77	6 1 6	ditto	18	5 11 6
ditto	70	6 19 6	Bolenna	32	8 4 0
ditto	66	9 2 6	Wh. Leisure	29	7 7 0
ditto	65	3 16 6	Grambler & St Aub	71	6 13 6
ditto	61	6 1 6	ditto	58	6 6 0
ditto	57	4 15 0	ditto	55	2 11 6
ditto	53	6 8 0	ditto	41	5 10 0
ditto	40	4 2 0	Par Consols	102	4 9 6
ditto	39	3 14 6	ditto	58	4 15 0
ditto	37	2 11 6	ditto	46	6 6 0
ditto	27	5 7 6	Treleigh Consols	67	3 6 0
United Mines	104	4 10 6	ditto	59	9 11 0
ditto	101	5 16 6	ditto	52	3 11 6
ditto	100	4 7 6	Trethellan	52	2 7 0
ditto	94	5 15 0	ditto	51	2 9 0
ditto	89	6 16 6	ditto	41	6 13 6
ditto	66	3 15 0	Treviskey	55	7 16 0
ditto	50	3 12 0	ditto	46	5 5 0
Tresavean	82	3 16 0	ditto	38	7 14 0
ditto	80	3 6 0	Barrier	85	5 6 0
ditto	76	2 7 6	ditto	48	4 7 0
ditto	69	4 6 0	Wh. Ellen	80	6 16 0
ditto	62	6 0 6	ditto	25	4 11 0
ditto	61	3 13 6	Wh. Sisters	86	4 15 6
ditto	52	3 13 6	Wh. Andrew	38	4 17 6
ditto	35	3 8 6	ditto	13	4 14 0
ditto	27	0 17 0	Nangiles	15	6 10 0
South Caradon	98	5 14 6	Wh. Comfort	37	5 9 6
ditto	79	5 6 0	ditto	11	3 7 6
ditto	66	8 15 6	William's E. Downs	35	4 16 0
ditto	33	4 1 0	Wh. Bucketts	30	5 0 0
ditto	24	8 1 6	Martin's Ore	14	2 6 0
Perran St. George	54	3 13 6	Tamar S. H. Ores	10	7 12 6
ditto	50	3 14 6			

TOTAL PRODUCE.

Consolidated	841	£4847 8 0	Treviskey	139	£964 9 6
United Mines	595	3010 8 6	Barrier	133	659 6 0
Tresavean	544	1984 9 0	Wh. Ellen	105	657 15 0
South Caradon	300	1686 7 0	Wh. Sisters	86	410 13 0
Perran St. George, Bolenna, Wh. Leisure }	285	1462 7 0	Wh. Andrew, Nangiles }	66	343 17 0
			Wh. Comfort	48	239 14 0
Grambler & St. Aubyn	223	1224 18 0	Williams's E. Downs	35	168 0 0
Par Consols	206	1021 15 0	Wh. Bucketts	30	150 0 0
Treleigh Consols	178	969 3 0	Martin's Ore	14	32 4 0
Trethellan	144	520 16 6	Tamar S. H. Ores	10	76 5 0

Average Standard .... £105 4 0 | Average Produce 7½
Average Price per ton £5 3 0
Quantity of Ore .... 3984 tons. | Quantity of Fine Copper, 300 tons 3 cwts.
Amount of Money £20,629 15 6
LAST SALE.—Average Standard .... £91 1 0.—Average Produce 9½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	398½	£2741 5 0
English Copper	650	3545 2 0
Vivian and Sons	566½	2661 5 0
Freeman and Co.	458	2517 3 6
Grenfell and Sons	118	812 19 6
Sims, Willyams, and Co.	608	2957 0 0
Williams, Foster, and Co.	1185	5395 0 6
Total tons	3982	£20,629 15 6

Copper ores for sale on Thursday next, at Serpell's Hotel, Pool.—Mines and Parcels.—Wheal Seton 548—East Wheal Crofty 510—Camborne Vean 506—Tincroft 438—Fowey Consols 217—Dolcoath 216—South Wheal Basset 214—East Pool 165—South Wh. Francis 152—Condurrow 138—Godolphin 94—Lanivet Consols 90—Ting Tang Consols 82—Tretoil 64—Hanson Mines 42—West Basset 20.—Total, 3496 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea Mines 604—Par Consols 266—United Hills 258—Wheal Prosper 202—Wheal Virgin 196—Wheal Providence 180—Trenow Consols 135—Wheal Brewer 97—St. Agnes Consols 80—Wheal Rodney 61—Wh. Kayle 50—Wheal Agar 30—North Wheal Basset 28—Carzise Consols 6—Wheal Ann 5.—Total, 2198 tons.

COPPER ORES

At SWANSEA, for Sale, Sept. 30.—Cobre 115, ditto 108, ditto 89, ditto 100, ditto 99, ditto 98, ditto 90—Chili 86, ditto 72, ditto 67, ditto 47, ditto 46, ditto 45, ditto 43, ditto 40, ditto 95, ditto 41—Cuba 92, ditto 82, ditto 81, ditto 77, ditto 72, ditto 63, ditto 61—Berehaven 128, ditto 125, ditto 108, ditto 106—Knockmahon 109, ditto 91, ditto 50, ditto 59—Ballymurtagh 79, ditto 49, ditto 37, ditto 19, ditto 16—Forest Slag 69—Kaw-aw 2, ditto 1.—Total 2867 tons.

SILVER-LEAD ORE

Sold on the 19th and 21st of Sept., 1846.

[The Newtownards Mining Company's ore was sold at Douglas, Isle of Man; and the East Tamar Consols at Tavistock.]

Mine.	*Tons.*	*Price per ton.*	*Amount.*	*Purchaser.*
Newtownards	75	£10 15 0	£806 5 0	Mullins, Brothers, and Co.
East Tamar	40	16 2 0	650 0 0	Ditto.

Total tons, 115.—Amount of money, £1456 5s. 0d.

WORK PERFORMED BY CORNISH ENGINES.

The number of pumping-engines reported for the month of Aug. is 29—the quantity of coals consumed being 1873 tons, lifting, in the aggregate, 17,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 52,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal. The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch on pist.	Strokes per min.	Consump. of coal in bus.	Million lbs. lifted 1 foot by consump. of 1 bush. coal	Average quantity of water per min.
Wh. Prosper	Western, 80-in.	9·7	88,831	14·1	5·1	2640	54·2	} 1050·0
Ditto	Roberts's 70-in.	9·75	72,374	14·6	5·0	1944	57·7	
Godolphin	Sims's 80-in.	10·0	78,756	12·5	5·2	1896	70·7	495·0
Great Work	Leed's 60-in.	9·0	47,020	12·9	7·3	1719	57·2	173·0
Carn Brea	{ Sims's 50, 99 in. combined }	9·0	42,391	16·7	4·0	490	60·4	170·0
Ting-Tang	Do. 60 & 100 do.	9·0	56,514	18·8	3·8	1416	53·6	245·0
United Mines	Taylor's 85-in.	11·0	92,629	14·8	5·6	2484	84·7	} 1261·0
Ditto	Eldon's 30-inch	9·0	13,631	16·0	7·6	447	70·6	
Ditto	Loam's 85-inch	10·0	89,320	11·8	5·4	2501	58·9	
Ditto	Hocking's 85-in	10·0	96,189	14·6	5·7	3966	57·7	
United Hills	Williams' 80-in.	10·0	73,988	14·7	6·2	2496	60·2	430·0
East Wh. Rose	Michell's 70 in.	10·0	42,649	9·9	4·1	950	68·0	400·0

ELECTION OF LORD MAYOR.—At a Meeting of Liverymen of the City of London, the friends of Mr. ALDERMAN WOOD, held at the Swan with Two Necks, Gresham-street, on Tuesday, the 15th Sept. inst., to take into consideration the course to be pursued to secure his ELECTION for LORD MAYOR for the year ensuing,

Mr. Deputy MUDDELL in the chair;

Moved by J. Underwood, Esq., seconded by T. J. Holt, Esq., and resolved unanimously,

That it is the opinion of this meeting, that Mr. Alderman Wood's claim to the distinguished honour of becoming the Chief Magistrate of this City for the ensuing year is indisputable. That his high legal attainments, combined with upwards of 11 years of indefatigable zeal and assiduity in the discharge of his magisterial duties, as well as his able and dignified discharge of the important office of Sheriff of London and Middlesex, well qualify him to perform the high and important duties of Chief Magistrate; an office and an honour to which, by every consideration, he has a right to aspire, and the only office within the power of his fellow-citizens to bestow at all commensurate as a reward for the long-tried and faithful discharge of his magisterial duties.

Moved by J. Pittman Esq., seconded by J. Hartley, Esq., and resolved unanimously,

That the unabated confidence of this meeting in Mr. Ald. Wood cannot be more forcibly expressed than by an earnest assurance that each and every individual composing it will use his utmost endeavours to secure the election of the worthy Ald. to the civic chair.

It was moved by W. Harris, Esq, seconded by J. Yates, Esq., and resolved unanimously,

That a copy of the foregoing resolutions be forwarded to the Right Hon. the Lord Mayor, with a request that he will be pleased to submit the same to the Court of Aldermen, at their next meeting.

WM. MUDDELL, Chairman.

ROYAL COLLEGE OF CHEMISTRY,
16, HANOVER-SQUARE, LONDON.

The PRACTICAL COURSE of SCIENTIFIC INSTRUCTION in this institution is under the direction of Dr. A. W. HOFMANN, assisted by Dr. JOHN B. BLYTH, and Junior Assistants.

The THIRD SESSION will COMMENCE the 1st of OCTOBER, 1846, in the New Laboratory, and END on the 24th of FEBRUARY, 1847.

DURING THE SESSION,

The fee for students working every day is	£12 10 0
Four days in the week	10 0 0
Three days in the week	8 0 0
Two days in the week	6 0 0
One day in the week	4 0 0

The hours of attendance are from Nine to Five.

Dr. Gardner having resigned the office of secretary, all communications, in future, are to be addressed to Mr. William Johnson, at the office of the college, No. 16, Hanover-square, from whom all particulars may be obtained by students and others.

By order of the council, WILLIAM JOHNSON.

METROPOLITAN IRON AND STEEL COMPANY.
Provisionally Registered, pursuant to 7 and 8 Vic., c. 110.
Capital £200,000, in 10,000 shares of £20 each.—Deposit £2 per share.

A company has been formed for the MANUFACTURE OF IRON AND STEEL (from cast, scrap, and all descriptions of old refuse iron), which shall be of a superior quality to any hitherto produced in the mining districts.—The objects of the company are fully explained in the prospectus.

In allotting the shares a preference will be given to parties in the iron trade.

A list of directors, &c., will be shortly announced; and in the interim application for shares and prospectuses to be made to Mr. Charles Chilton, Steam Mills, 135, Old-street, London; or, at the offices of the company, No. 39, Moorgate-street, where the plans, &c., may be seen.

STEAM TO INDIA VIA EGYPT, MALTA, ITALY,
ALEXANDRIA, AND THE PENINSULAR PORTS.
PASSAGE TO BOMBAY, MADRAS, AND CALCUTTA.

The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, and CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, *en route* to Bombay, on the 1st of every month.

A steamer from Southampton leaves the 1st and 20th of every month for Malta, whence are steamers to Naples, Genoa, Civeta Vecchia, three times a month.

STEAM TO CORUNNA, OPORTO, VIGO, LISBON, CADIZ, AND GIBRALTAR.
A steamer leaves Southampton on the 7th, 17th, and 27th of every month.

Apply at the Peninsular and Oriental Steam Navigation Company's offices, 51, St. Mary Axe, London, where only passages can be secured throughout.

LAMIEROOE WHEAL MARIA (LEAD & COPPER) MINE:
IN 2048 SHARES.

WHEAL CONCORD SILVER-LEAD MINE: 1024 shares.
WHEAL MARY COPPER MINE: 1024 shares.
WHEAL WALTER LEAD AND COPPER MINE: 1024 shares.
LOSTWITHIEL CONSOLS COPPER MINE: 1024 shares.
WHEAL HOLWELL COPPER MINE: 2048 shares.
PRINCE EDWARD LEAD AND COPPER MINE: 2048 shares.
ECTON (Staffordshire) LEAD AND COPPER MINES: 1024 shares.
COSHEEN (county of Cork, Ireland) COPPER MINE: 1024 shares.

The BUSINESS of the ABOVE MINES is now conducted at No. 4, KING-STREET, CHEAPSIDE, LONDON, where all INFORMATION respecting them, and the value of the shares, may be obtained, and specimens from each mine inspected, including recent ones from WHEAL CONCORD, ECTON MINES, COSHEEN, and others.

Dated Sept. 12, 1846. JAMES CROFTS, Secretary.

CONSOLIDATED MANAGEMENT OF MINES.—
In consequence of the absence of several influential members of the committees, and also adventurers in the respective mines, the MEETING stands ADJOURNED until further notice.

By order,
4, King-street, Cheapside, Sept. 24, 1846. JAMES CROFTS, Secretary.

NOTICES TO CORRESPONDENTS.

RICHMOND RAILWAY.—We have received a long complaining letter respecting the management of this company. Like all new undertakings, time will cure many defects, and practice render perfect much of the irregularity mentioned. Our correspondent, however, suggests, that the directors should adopt the arrangement of the Blackwall Railway, in having a separate carriage for each station—not only to avoid the delay, but to prevent the present great inconvenience to passengers requiring egress and ingress,—and to which, at least, the directors would do well to turn their attention.

"A Subscriber."—Fauvelle's New System of Boring was first described in the *Mining Journal* of the 12th inst., and in another column will be found the additional information which transpired at the meeting of the British Association.

UNIVERSAL SALVAGE COMPANY.—In reply to a correspondent, we can only say, that we have no knowledge of the parties—nor can we enter into private matters. Sir Francis Westcott Myers may, for aught we know, only have a claim to a title from continental powers—but this is far from the question—"A man's a man for a' that!"

THE MINING JOURNAL
And Atmospheric Railway Gazette.

LONDON, SEPTEMBER 26, 1846.

There is, evidently, a set purpose entertained by some sections of the daily press of again writing up a famine. The amateurs in this kind of misfeasance succeeded tolerably well in raising the fear of a famine last autumn; and though they can happily do but little towards the creation of such a calamity, they can do much to instil the terror of it. We are quite aware, that the circumstances marking the two seasons are, in some important points, dissimilar; but the difference is one of degree, and not of kind—for the sole scarcity of last year was of that same edible, whose more extensive failure makes the sole scarcity of this. It is obvious, that a very partial deficiency of food of any kind, under the old and unrevised law, was calculated to accomplish more injury, than a far more general deficiency could do under the new. And notwithstanding the ample security taken by that statute, for the safety and abundance of the national food—a security extending itself to, and taking root in, the corn growing countries of the entire world—yet is a limited failure in one of the lowest and least nutritious—and, therefore, one of the least important—elements of sustentation, trumpetted forth as the cause of an *alarming* and *general* scarcity. The part taken by the Protectionist press, in this cry of a wolf when there is no wolf, or when at worst he is a great distance off, is quite intelligible—for the *prestege* of a coming dearth will render the new corn law for a season practically inoperative; but what the Liberal press can mean by the tone of its harpings, unless it is to give a full swing to its fears, or to raise, in the absence of all sessional excitement, a sensation, it is not easy to understand. What are the plain facts of the case? That an extensive failure has taken place in the produce of an article forming the chief winter's food of the Irish peasantry. There was a similar failure last year, which was met and fully compensated by a slight importation of maize; and now, when the markets of the kingdom are open, not only to maize, but to all the bread stuffs of the two continents, it cannot surely be supposed that the necessities of Ireland will be less fully satisfied, than when the surplus harvests of the world were shut out, or made unavailable by statute. A scarcity of an absolutely serious kind, can but by a bare possibility happen in the presence of the new importation law. As to other countries, and the quantity of food they can spare to us who may need it, our opinion is, notwithstanding the confident assertions to the contrary, that their disposable amount will be very great.

We may not say that everywhere the all-teeming earth, in the harvest time just ended, yielded up an overflowing fruitage for the gratification of its inhabitants—this, perhaps, we may not affirm; but certainly he will be chargeable with something very like a libel against Nature and Providence, who shall say that anywhere in its wide circle the last harvest was a stinted one—the lowest estimates make it a harvest of average produce. The average produce of the European continent, particularly of its north-eastern districts, exceeds its consumption very considerably; and this surplus will be tided down, as a matter of course, into western Europe, and into the ports of the United Kingdom especially, as offering for this species of merchandise the most advantageous returns. Indeed, the doubt is not as to the fullness of our graneries during the winter; but how are the thronging masses of Irish poor to procure it? The measures generously devised by Government for the help of our Irish peasantry, during such pressure as may overtake them till the crops of 1847 are in their barns, will nearly answer this question; and the large outlay for railways which will spread itself over that country, like the dews of heaven along its mountains, quickening their manufacturing skill, and remunerating their rural labour, fills out and finishes the reply. For these reasons, and for others, which we have neither space or time to enumerate, we think the fear of any pinching scarcity in the pasturage of the national flock, must be premature and unseasonable, and the belief that January or February will find us in the midst of a famine, when our ports are open, for the first time in an olympiad of centuries, to the surplus grain of the world, is, in the last and largest sense of the word, preposterous.

In our correspondence of to-day, will be found a letter adverting to the operations of jobbers in the province of Tavistock, which we can very well imagine and believe, having had some opportunity of personally observing the practical movements of the "*sett.*" We wish at all times to avoid personalities, and ever decry any attempt which may have for its object the injury of any individual, however high or humble may be his station in society; yet there are times and occasions when we cannot allow parties to escape from public notice—more especially when we find that the "moves" are calculated to mislead the public—while, were we to add that they are of a nature which requires exposure, or, at least, a caution being observed, we should not go far wide the mark. One correspondent—who, we need hardly say, is well known to us—writes of the "doings" of the "mining king" of Tavistock, and his "satellites." Now, we can well imagine, that there may be some jealousy, envy, hatred, or malice, in this attack; yet, as we were the first to explode the Redruth clique, so shall we be found equally ready to bring forward the Devonians, or those in the eastern district of Cornwall, regardless of the parties who may thus subject themselves to our animadversions or observations.

It appears from our correspondent, that a system, if such it can be termed, is observed in the Tavistock district—if not the immediate locality—where a certain party, whose late success in mining has obtained for him the title of the "mining king," and who is, we are given to understand, the principal (without *principle*), and to whom our observations should be directed—certain setts are taken, certain agents nominated, certain reports made, certain shares sold, and certain profits realised.

We trust that we have said enough to excite attention, while we have no hesitation in stating, that should not our warning be taken with a kindly feeling, an *exposé* may take place as regards men and mines, or as they are so miscalled, which will reflect aught but credit on the parties who are concerned.

In a recent Number, we adverted to the effect of shot upon steam-vessels, illustrating the result of the trials made by the application of the patent "Kamptulicon" composition, invented by Lieut. WALTER, of the Royal Marines. We have now much gratification in stating, that that gentleman has lately discovered an improved method—and, indeed, a novel application—of the combination of the copper and iron in the construction of vessels, which promises to be of the first importance, more particularly as affects naval warfare. The matter is now under the consideration of the highest authorities; and we hope to have it in our power, in an early Number, to communicate further information on the subject, which is at this moment exciting considerable attention, more especially among those interested in the building of iron vessels, as being calculated to effect so considerable an alteration, and, as we are led to believe, an improvement in their construction.

THE SALT TRADE—ENGLAND, INDIA, AND FRANCE.—The exorbitant duty imposed upon salt by the French Government, which may be *bonâ fide* called the royal monopoliser of this important article, not only so requisite for the salubrity of every class of the population, but also to the great manufacturers of cotton and linen fabrics, the agriculturists in the improvement of their lands, and the curers of meat and fish, who annually consume to a very great extent, so as to allow them to compete with foreign nations, in bringing their productions with advantage to market. Session after session the question has been brought forward in the Chamber of Deputies, and petitions after petitions, presented by the liberal members, praying for its total repeal, or at least a great reduction in the duty, which is so prejudicial to the progress of the industry of the country. Promises have been repeatedly made, but in vain, by the Ministers of Commerce and Finance, that the subject was under the serious consideration of the Government; but as yet no measure has been brought forward by them in the Chambers, to alter the oppression so much complained of, and so vital to the well-being of the nation. The lion may slumber for a time, but if tortured will arise with greater vigour. Seeing that petitions have had but little avail, M. Auguste Demesnay, the deputy for the department of the Doubs, has addressed a very spirited letter to the different Paris journals, in which he states—"That he has laid before the president of the Chamber of Deputies a proposition for the reduction of 20 centimes or 2d. per kilogramme (2 lbs.) on the present duty imposed upon salt. That this important question will be renewed, and warmly discussed, during the second part of the present session; but before that time the Councils-General of the kingdom are to assemble, invested as they are with the right of showing the grievances and wants of the population, and will place before Government this question in its true light, as one which requires the earnest solicitude and attention of the Ministers and the Chambers. Already have the Councils of 50 of the most important departments, manufacturing and agricultural, expressed their feeling and determination to do all in their power to have the duty reduced,—and there is a general union forming in every other department, not only by the Councils, but the most influential men, commercial and landed proprietors, in favour of the agricultural and working classes. Besides these, the different societies throughout the whole country, from one end to the other, are now proving themselves worthy of the name of friends and supporters of the welfare and prosperity of the people, by forming themselves, not into a *league*, but a committee of delegates, to expose to Government the injuries inflicted upon the prosperity of every branch of French industry and salubrity of the population, by this obnoxious impost upon salt. During the last session, the hon. deputy, M. Gay-Lussac, in his report presented to the Chamber of Peers, on the 19th of June last, stated 'that the dearness of salt was the chief cause of the extensive injury inflicted on the progress of agriculture—that it was the means of creating the most painful privations to the labouring and poorer classes of the population, and its reduction would not only be a general benefit to the nation at large, but would create a large development in its consumption.' These are facts that could not be denied; and, however disagreeable free trade and the reduction of duty might be to monopolists, France, like England, will sooner or later enjoy those benefits that a wise government is in duty bound to bestow upon the industry and welfare of the nation it governs, and that particularly after upwards of 30 years of general peace." We have, on various occasions, exposed in this Journal the injustice of the duty imposed upon the importation of British salt into India, and how oppressive this impost of the East India Company is to the industry of the white salt manufacturers of Cheshire, Worcestershire, and other salt mining counties, and to our commerce generally in the East. The value of salt, "free on board ship," at Liverpool, is 15s. a ton; the tax on salt in India is 8*l.* 3s. 6d. per ton; the retail price in the interior about 2½d. per lb.; the consumption estimated, even by "the Indian Government," at 12 lbs. per head, or say half that of England; the average number comprising one family, five persons; and the rate of wages, in many parts in the interior, only 1*l.* 16s. a year! on which the wretched ryot has to feed and clothe himself, and also buy salt. This is one of the most obnoxious duties inflicted by the Company upon English produce; and it is to be hoped that, ere long, after the important meeting that recently was held at Northwich, of our white salt manufacturers, the monopolisers of Bombay, Madras, and Calcutta, will take the subject into their consideration, and the *solons* of Leadenhall-street will, before many Overland Mails arrive, issue their wise—and, we must say, liberal and just—decree, if not repealing it, at least granting a great reduction on its importation—it being proved, that the authorities cannot produce a sufficient quantity to meet the demand of so requisite an article in one of the hottest and most changeable climates in the globe. Our salt trade with Hong Kong and China is rapidly on the increase; and all that our salt manufacturers of Cheshire desire is, that they may have the opportunity of developing their industry by a moderate import duty into the different ports of India. The spirit of free trade is rapidly spreading all over the world; and whether it be monopolising governments or companies, they must ultimately repeal those duties which oppress the welfare, industry, and prosperity of the people.

CAST-IRON GATES FOR CANAL LOCKS.—At the last meeting of the Industrial Society of Mulhausen, M. Louis Audran, in the name of the Mechanical Committee, presented a report on the new cast-iron lock-gates recently fixed at the lock No. 39, on the canal joining the rivers Rhone and Rhine, executed under the direction, and from the plans, of M. Detzem, the engineer of the canal, residing at Mulhausen. They are proved to be far superior to wood, or any other description of lock-gates, hitherto introduced in France and England, as very slight repairs are required; and, when means have been discovered to prevent oxidation, which there is little doubt will soon be obtained, as many methods have been proposed by scientific men in England and on the continent, they will become universally used. These gates are very durable, and are being generally adopted on the canal of the Rhone and Rhine, being less expensive than any others.

REVIEW OF THE MINES AND MINING INDUSTRY OF BELGIUM.—R. Valpy, Esq. (of the Board of Trade), read a paper on this subject at the meeting of the British Association: it stated that, as a coal-producing country, Belgium ranked the second in Europe. The ratio of the coal district to the total area is—

		Acres.		Tons annually.
Great Britain	1/10 .... or	2,930,000	producing....	34,000,000
Belgium	1/12 .... „	335,000	„	4,500,000
France	1/10 .... „	630,000	„	3,783,000
Germanic Union				3,000,000

In 1838, the total number of coal mines in Belgium was 307, with 470 pits in work, and 172 in process of construction, employing 37,171 persons; being an increase of 8454—or 28 per cent.—on the number employed in 1829. The increase of the quantity of coal raised was not accurately ascertained, but it appeared to be about 37 per cent. The average cost of production is 10s. 8d. per ton, and the average price 23s. 1d. for first quality, and 16s. 6½d. for the second quality of coal; the average rate of wages is 1s. 6 1/10d. per day. The establishments for preparing other mineral productions for market in 1838, were—for iron 221, copper 8, zinc 7, lead 2; the total number of furnaces was 139, of which 47 used coke and 92 charcoal. The total number of accidents from 1821 to 1840 was 1352; which occasioned severe hurts to 882 persons, and deaths to 1710, making a total of 2592 sufferers in 20 years.

MAMMOTH ENGINES.—The Great Western Company continue to turn out new engines even of more stupendous build than any before. A splendid one, the *Elk*, has just been slipped off the anvil, to be specially employed in the express train service. The *Elk* was designed by Mr. Brunel, under the superintendence of Mr. Gooch: her dimensions are—driving wheels 7 ft. diameter, stroke 18 in., cylinder 16 in., boiler 14 ft.; weight of engine, without water, 25 tons; weight of tender, without coke or water, 9 tons. Though the machine cannot be expected to be as yet in proper working order, she was attached to an express train with six carriages, and performed a distance of 77 miles (from Swindon to Paddington) in 1 h. 20 m.—The down journey was not so rapid, having been 1 h. and 31 m. performing it. Besides the *Elk*, the following large locomotives are in working—the *Great Western*, diameter of driving wheels 8 ft., cylinder 18 in., stroke 24 in., boiler 16 ft.; weight of engine, without water, 36 tons; weight of tender, without fuel or water, 10 tons—making a total of 46 tons: this engine was built for passenger trains upon the same plan as the *Elk*. The *Prince* and the *Queen* engines are of the same dimensions, and are also for passenger trains. The *Bellerophon* and the *Premier* are luggage engines, having 6 wheels of 5 ft. in diameter connected; the dimensions in other respects, and their respective weights, being similar to the *Great Western* passenger engine. These luggage engines are decidedly the most powerful, and surpass in power and speed the *Hercules*, which impelled a train weighing 406 tons, in the experimental trip with the Gauge Commissioners.

PROSPECTIVE OPENING OF RAILWAYS.—The Newcastle and Berwick, between Newcastle and Morpeth, is announced to be opened in the early part of the ensuing month, and the whole line is expected to be finished by February next. The bridges over the Tyne and Tweed, now in course of erection, will occupy two years at least ere they can be opened. The extension of the North Shields line to Tynemouth will be thrown open to the public in a few weeks.—The Whitehaven and Harrington Railway is in so forward a state, as to promise its opening for public traffic in the early part of October.—The South Devon will be opened on the atmospheric system of traction in about three months. The engines at the Exeter and Countess Weir stations are completed, and have been tried; the valves are being fixed to the tubing, and the connecting pipes for the engines will be forthwith laid down. Mr. Samuda was on the line, on Tuesday last, superintending the works in progress.—The Bridlington branch, the property of the Hull and Selby, extending from Hull to Bridlington by way of Beverley and Driffield, a distance of 31 miles, is appointed to be publicly opened on Tuesday, the 6th of next month.—The Margate line, a branch of the South Eastern from Ramsgate, is on the eve of completion, and will be thrown open to the public in a few days.—The Hertford branch of the Eastern Counties was opened on Tuesday as a double line.—The Bedford branch of the London and Birmingham will be completed the first week in October.

SUB-MARINE RAILWAYS.—Our correspondent, Mr. DE LA HAYE, after the reading of a paper "On Ancient and Modern Modes of Travelling," at the Liverpool Polytechnic Society, on Monday—in which he expatiated upon the advantages of railway transit, and expressed his belief that, by-and-bye, *a daily communication would be established between China, India, and London*, by means of the electric telegraph—alluded to his invention of sub-marine railways. We have before given full details of Mr. De la Haye's plan, which is to construct an immense iron tube, to be lowered from above, and rivetted together by means of the diving-bell. When completed, rails are to be laid down, and locomotives, unaffected by external influences, are to career beneath the bosom of the deep. His theory is, that the violence of the most violent storms is not felt lower than 20 ft. below the surface, and that the pressure of the water, together with the accumulation of sand, &c., would retain the tube in the position in which it might be placed. Mr. De la Haye is a British subject, of French extraction, and is very enthusiastic in his hope as to the adoption and success of the invention. When his assertions have been doubted or disregarded, he comforts himself with the assurance that nearly all great inventions have been at first exposed to ridicule. He last season brought the subject before the Liverpool Polytechnic Society—it was then treated very lightly: on the present occasion, however, it was received with more seriousness, and, at Mr. De la Haye's request, several questions were asked.—Mr. SMITH inquired, supposing a tunnel between Dover and Calais complete, what system would he devise for lighting and ventilating it? He felt satisfied that, without some system of ventilation, there would be great danger, and those who might go in alive, would probably never return.—Mr. DE LA HAYE considered that the foul air might be pumped out; the velocity of the trains of carriages would of itself create an immense, though, perhaps, insufficient draught. There would be no steam, as he meant to use atmospheric engines.—Mr. BRITTEN could see no difficulty as to ventilation; but he thought there would be danger—for instance, a vessel heaving anchor, would be apt to tear a part of the tunnel away.—Mr. DE LA HAYE dissented, and adduced the late instance of the sinking of a vessel on the Thames Tunnel.—Mr. SMITH asked, if he had made any calculation, as to how long the iron would last? He himself had lately seen a chain cable which had only been in the river here for the period of 14 months, that was nearly destroyed. All fluids containing salts had a very powerful action upon metals.—Mr. DE LA HAYE thought it might be protected galvanically. It could be covered with a coat of zinc, or enamelled with quartz. Bronze would answer well, but would be too dear.—The CHAIRMAN said, the best covering would be, perhaps, hydraulic cement.—Mr. DE LA HAYE, in answer to a further question, said, he had estimated the cost of a sub-marine railway between Dover and Calais at 8,000,000*l.* The iron itself would cost 2,000,000*l.*—The CHAIRMAN considered the feasibility of the scheme might be more questioned in an economical than an engineering point of view.—Mr. BRITTEN expressed a similar opinion. Steam navigation was now so well conducted, that he thought the extra hour of travelling between Dover and Calais would not be considered in comparison with other advantages.—Mr. BOULT advised Mr. De la Haye to submit his invention to Mr. Stephenson, whom of all others he thought was qualified to estimate it truly.—Mr. DE LA HAYE said that he had, two years ago, submitted the plans to Mr. George Stephenson—plans which took him two or three months to prepare—but, strange to say, their receipt was never acknowledged, nor had he been able to get the least satisfaction, or the plans even returned. It had been suggested to him by some gentlemen, and he believed, that the tubular communication at the Menai Straits was an adoption of part of his scheme; certain it was, that it had been promulgated three months after he sent his plans.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

It is stated, that there exists in this country a vast number of mines, which though containing ores of great value, have been either abandoned after being partially worked, or been totally neglected. At a place called Iserpent, in the department of the Allier, there is said to exist an important vein of copper, which has been totally neglected since 1832. A mine of copper is stated to exist at Acles, in the same department; but has not been touched since 1800. At Lastours, in the department of Aude, veins of copper, iron, &c., of considerable importance exist; but are neglected. In the same department, the mines of Maisons are totally abandoned, though it is believed they would still be found productive. At Lanet and Bouisse indications of copper have been observed, but nothing has been done. At Forge, in the Corréze, copper, &c., exists; but nothing has been done with it since 1823. At Luenecan, in the department du Nord, copper exists; but not, it is believed, of any great value. At Propiac and Buis, in the department of La Drome, copper has been found; but no pains have been taken to turn it to account. Near the mines of St. Sauveur (Gard) a vein of copper, a metre at least in thickness, has been found; but nothing has been done with it. Innumerable indications of the existence of copper have been observed at Vallerangues, Beaugues, Roche de Malgache, &c., &c., all in Gard; but it has not been deemed worth while to follow them up. At Thegs, Pisset, Ramiettes, Rocher Cabot, Villard Chateau, and other places in L'Isere, copper exists; and more than a hundred years ago establishments were set on foot working it; but, being badly conducted, they were abandoned, and ever since then the ore has been totally neglected. In the mountains called Rousses, in the Isére, copper was discovered in 1820; and it was subsequently found, that it contained a not inconsiderable portion of silver; but it appears to have been thought that it would be sinful to touch it, and so it has remained ever since in quiet repose. At Campis, in Lozére, a vein of copper has been traced for upwards of 10 kilometres; but it has never been meddled with. At St. Etienne, between the departments of Lozére and Gard, there is a vein of copper, which could be worked with great facility; but it has never been touched. At Longueville, in the Moselle, copper of a poor quality exists; but nothing is done with it. At Falk, in the same department, copper exists; but has not been touched. At Hamburg and Vallenburg it exists also; but, of course, nobody ever dreamed it worth while to take it in hand. I could continue the enumeration of places in which ore extensively exists, and is notoriously neglected—not copper ore only, but iron and lead; but it is not worth while. What has been said will show your readers that these French people are the slowest coaches on earth in matters of enterprise. As regards ores in particular, their conduct is perfectly absurd in neglecting them; for, with the present exorbitant tariff, they could be made profitable, whatever the cost of getting at or working them.

A curious fraud has just been brought to light in the village of Firmi, near Rodez. Firmi is situated over an extensive coal mine, and almost every inhabitant of the village had, it seems, dug down to the coal, and used as much of it as pleased him, without the permission or the knowledge of the lessees of the mine. The accidental death of a miner in one of the concealed pits lead to the discovery of the fraud.

On the 3d of next month the Minister of Marine will receive contracts for the supply of 36,000,000 kilogrammes of coal for Toulon.

The provincial newspapers mention, that the works on one section of the Orleans and Bordeaux Railway were delayed for a long time, on account of the want of rails. At last, when the supply did arrive, it was only 3000, instead of 13,000, and no chairs whatever were sent. The ironmasters stated, that so many orders pressed upon them, that it was absolutely impossible for them to fulfil their contract.

The Lyon and St. Etienne journals state, that the coal-pits of the department of the Loire are being worked with great activity. Some improvements in the manner of working have been borrowed from English mines with great success. A plan has also been discovered of utilising the small coal and dust created in the mines, by turning it into coke. Formerly it was either left at the bottom of the pits, or sold at a dead loss. If mixed with pitch, heated to a certain point, and heavily pressed, the small coal is transformed into a material which emits a greater degree of heat than ordinary coal.

The number of locomotives in use in 1844, on the French railways, was 168 of French construction, and 117 of foreign (English). In 1842, the the number of French locomotives was equal to that of the foreign; in 1843, there was an increase of two in favour of the French; in 1844, the advantage was 41. For 1845, the increase of the French was still more remarkable, and this year it is yet greater.

The *Journal des Débats* publishes some details of the state of the forests in Algiers, which are not without interest, from the bearing they have upon the question of exploiting the discovered and assumed mineral wealth of that colony. In the province of Algiers it is stated, that there are 48,400 *hectares* of forest, capable of yielding 147,280 *stères* of wood; in the province of Constantine, 21,940 *hectares*, with 88,275 *stères* of wood; and the province of Oran, 20,100 *hectares*, and 11,600 *stères* of wood. It is believed that other forests exist, but particulars are not known. The preceding figures are supplied by the department of Woods and Forests, but to them must be added, says the *Débats*, 263,200 *hectares*, measured by the engineering staff—viz.: 191,600 *hectares* in the province of Algiers, 54,000 in Constantine, 17,600 in Oran. It seems strange that the Woods and Forests people should have overlooked, or left entirely to the military, the measurement of the greater part of the woods. Besides what is here stated, the *Débats* states that numerous forests, not included in the preceding figures, exists in the Kabylie, from Bougie to Collo, in the northern part of the Edough, in the Dahra, in the localities to the south of Milianah, in those of the north of the Djaffra, on the road from Saida to Mascara, to the south-west of Traiet, to the frontier of Morocco, and on the frontier of Tunis. It must be observed, that all this wood is not proposed to be handed over to the ironmasters of Algiers; the *Débats* only assigns them that of the Edough, Fillela, &c.

The Marquis de Boissy has sold the extensive iron-works of Kerzon, Clavieres, and Kislen, to M. Aubertot, for the sum of 3,250,000 fr., or 150,000*l*. He retains those of Burges and Rosieres. These establishments have been hitherto known as those of Berry.

A mine, supposed to be copper, situated at Foumel, in Algiers, was conceded sometime ago to a company, and a great noise was made about its immense importance. Copper has since been discovered to be lead. This calls to mind the famous coal mine discovered some months ago—the coals of which turned out to be flints.

At Paris the prices of the *fers lamines* are on the rise. In the neighbourhood, the ironmasters will not accept less than 420 fr. the 100 kilogrammes. Tradesmen sell at 445 and 440 fr., according to the importance of the order. Many descriptions of iron are scarce, and difficult to be obtained. Those called *demi-roches* are advancing in price. The reopening of the canals will, however, cause the supplies to be increased. At Saint Dizier *fers lamines*, delivered in the town, are quoted 400 fr. the 100 kilogrammes. An augmentation of price is expected, on account of the enormous demands that pour in. At present, orders have been accepted for the supply of 3,000,000 kilogrammes; and within the last few days, the ironmasters have been compelled to refuse many new commands. The manufacture continues to be carried on with great activity, especially in certain descriptions of fine iron from the *fontes* of the Marne. The yards at St. Dizier are stocked with upwards of 3,000,000 *stères* of wood, and fresh supplies are pouring in every day.—*Paris, Tuesday.*

ENGLISH PLATE GLASS-MAKING IN 1846 AND 1827 CONTRASTED.—In a paper read at the meetings of the British Association, at Southampton, last week, Mr. H. Howard furnished carefully all the materials for establishing this comparison. Amongst other results, he stated, that in 1827 plate glass was sold for about 12s. average per foot, to the extent of about 5000 feet per week; in 1835, for from 8s. to 9s. per foot, to the extent of about 7000 feet; in 1844, for from 6s. to 7s. per foot, reaching about 23,000 feet; and in 1846, for from 5s. to 6s.—about 40,000 feet per week. The sale is now about 45,000 feet weekly. He mentioned that, in 1829, a plate glass manufactory ceased operations, because of the small profit realised when selling at 12s.; while, in 1846, a company, with a paid-up capital of 130,000*l*., realised a net profit of 30,000*l*., selling at from 5s. to 6s. Looking at this extraordinary increase, in spite of the severity of excise restrictions, the author asks, what would be the probable demand, if the price were reduced to 4s. or 3s. 6d. per foot—which, free as the trade now is from excise interference, would yield an ample profit?

ROAD AND RAIL.—In 1734, a coach, with eight horses, reached London in nine days from Edinburgh. In 1847, the same journey will be made by rail in 15 or 16 hours.

THE IRON TRADE—NEW IRON COMPANY IN SCOTLAND.

The prosperous state of the iron trade has very naturally directed the attention of capitalists to participating in the profits realised by its manufacture; and, from the position Scotland has assumed in the production of pig-iron, it is not surprising to find proposals emanating therefrom for increasing her establishments for its conversion into a malleable commodity. The present produce of pig-iron in Scotland is estimated at 10,000 tons weekly, of which only about 1500 tons are manufactured there—the remaining three-fourths being sent to England. In another column will be found a prospectus for the establishment of a company in the town of Dunfermline (which is considered very advantageously situated), under the title of the East of Scotland Malleable Iron Company—the works of which are expected to be in operation in about nine months; and until then it is proposed that interest be allowed upon the capital subscribed at the rate of 5 per cent. Some considerable care appears to have been taken in the formation of this company; and a circumstantial report has been obtained from Mr. John Watt, engineer, of Glasgow; and, as that document enters into the detail of the requisites of such an undertaking, we append it, as well for the information and future reference of our readers, as to enable them to judge of the undertaking under notice.

Mr. Watt, in introducing his report, says, that most of the estimates are taken from offers of respectable parties; and "for increasing the produce of the works to 600 tons weekly, I would arrange the plans so as this could be carried into effect, when thought desirable, at an expense not exceeding 18,000*l*., as the mill estimated for will be capable of turning out a good deal more than 300 tons weekly, and the principal extensions would be at the refineries and forges. With regard to the cost of rails, you will observe that I have allowed 28 cwts. of pig-iron to a ton of rails, which I believe to be more than usually allowed at the iron-works here, and which I consider will be rather above than under the quantity required. A saving would also be effected in puddling or *boiling* the pig, without the intervention of the refinery process, which I would propose adopting to the extent of 50 tons a week."

Estimate of Machinery and Erections for a Malleable Iron-Work, capable of turning out 300 tons of bar-iron and rails weekly.

1. The REFINERIES.—Four double refineries, complete, with a high pressure steam-engine, and boilers, (of 40-horse power), for blowing	£2040	0	0
2. The FORGE.—Excavating foundations, 1070 cubic yards, at 1s.	£ 53	10	0
Mason work in foundation and surrounding framing, 5820 cubic feet, at 1s.	291	0	0
Cast-iron framing	1100	0	0
Heavy gearing	1260	0	0
High-pressure steam-engine and boiler—cylinder 30-inches diameter, stroke 6-feet	3200	0	0
Shingling machine, with gearing pro ditto	410	0	0
A steam-hammer, 2¼ tons weight—stroke 4 ft. 6 in., with foundations, complete	840	0	0
Four pairs of cropping shears, with shafting, &c.	200	0	0
Two trains of puddlers' rolls, 510*l*. each	1020	0	0
Roofing for forge, including cast-iron columns, tiles, &c., complete	2622	0	0
Flooring plates and shear benches	360	0	0
Cold water cistern	80	0	0
Plates for cold depôts	150	0	0
Boshes for puddlers	50	0	0
Twenty-four puddling furnaces, of fire-brick, with chimneys, plates, and binders, complete—75*l*. each	1800	0	0
Boiler, building, and chimney	700	0	0
Two cranes for changing rolls, &c.	460	0	0
	£15,596	10	0
3. ROLLING MILL.—Excavations for foundations and mason-work of framings	£ 344	10	0
Cast-iron framing	1100	0	0
Heavy gearing	1260	0	0
A high-pressure steam-engine & boilers—32-inch cylinder, 6 ft. stroke	3600	0	0
A train of rolls for railway bars, including pinions, standard brasses, &c.	520	0	0
A train of 14-inch rolls, complete	382	10	0
Two pairs of cropping shears, without shafting	110	0	0
Flooring plates, shear benches, &c.	300	0	0
Roofing, including cast-iron columns and tiles	1800	0	0
Cistern and boshes, 70*l*.; shears for cutting cold bars, 150*l*.	220	0	0
Straightening machine for rails and benches	220	0	0
Saws for cutting rails hot	355	0	0
Nine heating furnaces, at 10*l*. each	630	0	0
	£10,842	0	0
1. ROLL TURNING SHOP, &c.—One centre lathe, one ditto for rail rolls, gearing for the above, tools, &c., proposed to be driven—finery engine	£ 420	0	0
Erections for ditto	130	0	0
Sheds for stocking rails and bars	150	0	0
Weighing machines, puddlers' tools, &c.	230	0	0
Smith and millwright's shops	180	0	0
	£1110	0	0

TOTAL COST OF MACHINERY AND ERECTIONS.

Refineries, with steam-engine (40-horse power)	£2040	0	0
Forge, complete, 30-inch cylinder engine, and 24 puddling furnaces	15596	10	0
Mill, complete, engine of 32-inch cylinder, and 9 furnaces	10842	0	0
Roll turning and other work shops	1110	0	0
Total	£29,558	10	0

In connection with the accompanying estimate of a forge and mill puddling and heating furnaces, and capable of turning out 300 tons of bars and rails weekly, this statement is drawn up to show the capital required to carry on such an undertaking. It appears, from the detailed estimate, that such a work can be erected and put in working order for the sum of 29,558*l*. 10s., and the following calculations are believed to be a fair criterion of what finished rails can be produced for at the present time:—

FIRST PROCESS.—23 cwts. of pig-iron to produce a ton of refined metal, at 70s.	£ 4	0	6
6 cwts. of coke for ditto, refined, at 9d.	0	4	6
Wages of refiner, per ton, 1s. 6d.	0	1	6
Cost of refined metal per ton	£ 4	6	6
SECOND PROCESS.—21¼ cwts. of above refined metal to produce a ton of puddle bar, at 86s. 6d.	4	13	0
Coal used for puddling ditto, 18 cwts., at 6s.	0	5	5
Wages of puddler, per ton, 10s.	0	10	0
Wages, hammer, breaking and weighing metal, rolling, shearing, &c., per ton, 3s. 9d.	0	3	9
Cost puddle-bar per ton	£ 5	12	2
THIRD PROCESS.—22¼ cwts. of above puddle-bar to produce a ton of finished rails, including extra quality on top and bottom of rail pile, at 112s. 2d.	£ 6	6	2
Coal for ditto and engine-boilers, 15 cwts., at 6s.	0	4	6
Wages of heaters, per ton, 2s.; ditto roughers, 1s. 2d.; ditto rollers, 7d.	0	3	9
Heating, roughing, and rolling tops and bottoms for rail piles	0	0	7
Sawing ends of rails hot, hot filing, straightening hot and cold, grinding, weighing, inspecting, and loading, per ton	0	4	2
	£6	19	2
General charges, per ton	0	3	6
Interest, capital, &c.	0	2	0
Cost of finished rails, per ton, at works	£ 7	4	8
Or, as per summary of these calculations, 28 cwts. of pig-iron to produce a ton of finished rails, at 70s.	£ 4	18	0
6 cwts. of coke, at 9d., 4s. 6d.; 33 cwts. of coal, at 6s., 9s. 11d.	0	14	5
Wages at the different processes	1	6	9
General charges per ton	0	3	6
Interest, capital, &c., per ton	0	2	0
Transit to Charleston, per ton, 2s.	0	2	0
Cost of finished rails, delivered at Charleston	£ 7	6	8

These calculations, taken at the present high rate of wages, show that finished rails can at the present time, be produced for 7*l*. 4s. 8d. at the works; and to this must be added, transit to Charleston—say, 2s. per ton—making the cost of rails, when delivered, 7*l*. 6s. 8d.

Taking the weekly produce at 300 tons, the returns would be as follows:—

200 tons of finished rails, at 10*l*.	£2000	0	0
100 tons of finished bars, at 8*l*. 10s.	850	0	0
	£2850	0	0
Cost of manufacturing and delivering—			
200 tons of rails, at 7*l*. 6s. 8d.	£1466	13	4
100 tons of bars, at 7*l*.	700	0	0—2166 13 4
Weekly profit	£ 683	6	8

Or, 35,533*l*. 6s. 8d. of annual profits.

The following calculations will give an idea as to the amount of capital required to carry on these works when in operation:—

Weekly consumption of pig-iron, 420 tons, at 70s.	£1470	0	0
Ditto of coal, 720 tons, at 6s.	216	0	0
Wages at forge and mill	400	0	0
Stores, tools, &c.	50	0	0
Interest on capital	30	0	0
Total	£2166	0	0

At a meeting of the shareholders of the Llynvi Iron Company, a very satisfactory statement of the affairs was laid before the proprietors. It appears that the forge and mill are completed and in full activity, both for the production of finished bars and rails. A dividend of 4 per cent. for the six months, ending 30th June last, was declared, free of income tax.

We learn that the largest iron steamer ever built in Bristol, except the *Great Britain*, will be launched from the building-yard of Messrs. G. Lunell and Co., on Saturday, the 26th inst., at 12 o'clock. She is intended by the Bristol General Steam Navigation Company to run between Bristol and Cork, and is to be called the *Juverna*, the ancient name of Ireland.—*Bristol Gazette.*

PRODUCTION OF COAL IN BELGIUM.—From the official returns of the Engineers of Mines, we find that the three great coal producing provinces of Belgium produced, in 1845, 4,960,077 tons—of which Hainault gave 3,671,023 tons; Liege, 1,127,181; Namur, 161,873 tons. The present produce of the Belgian mines exceed by 1,177,338 tons that of France, and Hainault alone yields within 111,000 tons as much coal as the whole of the French mines put together. If they are attempting to work the coal basins of France on a large scale, to avoid the obligation of importing foreign coals, so superior to their own in quality, and to be obtained at less cost, the proprietors of the Belgian quarries are on the *qui vive*; and as several very considerable seams of excellent quality have lately been discovered, for the working of which concessions have been granted, the owners will be enabled to export it, at even a less price than at present.

THE NORTHWICH SALT-FIELD.—Mr. G. W. Ormerod read a paper on this subject, and produced a map, at the meeting of the British Association, at Southampton:—The rock salt of Northwich is part of the New Red Sandstone series: it forms two strata, the uppermost of which is 75 feet thick, and the lower 105 feet; they are separated by 30 feet of stone, containing veins of salt. Throughout the district, the brine is reached at the same level—about 87 feet—below the River Weaver; and varies uniformly in all the shafts when any change takes place. In this district there are three faults, which have displaced the strata to a considerable amount. The first fault is a throw down to the east of 400 yards; it intersects the South Lancashire coal-field, and passes into Cheshire, along the valley to the west of Bellefield and Hill Cliff, a range of New Red Sandstone (*bunter sandstien*), capped by the ripple-marked beds denominated "water-stones," in which the footmarks of the *Cheirotherium* occur; the summit is 352 ft. above the level of the sea. Near Northwich this fault appears to pass into another, which is an *upthrow* to the east of 400 feet, and passes also through the South Lancashire coal-field, by Wigan Churd, and east of Warrington into Cheshire, when it continues along the valley, east of the Bellefield range. Through the coal district, this line is proved by numerous workings; and in the salt district, by the extent to which the workings and the sinking of the land have gone. The third great fault, passing by Northwich, ranges by south-west to north-east, passing near Holt, and running up the valley between the Peckforton Hills, and the low range occupying the east side of the Dee. This valley is occupied by marl, in which saline springs are frequent. At Northwich the line runs in a north-easterly direction, forming the north-west boundary of the rock-salt. The subsidences already mentioned as taking place in the salt district are either sudden or gradual, and have been noticed for many years. At the yard of the Weaver Navigation Office, the sinking is at least 6 ft.; and, on the road from that place to Winnington, the depressions are shown by cracks in houses and visible subsidences in the land. From the same cause, a lock and a factory have required to be removed, meadows are laid under water, and the towing-path by the river has had to be raised. The Whitton Brook has also been made 6 feet deeper, to enable the navigation to proceed as formerly.—Mr. PHILLIPS observed, that one of these faults laid down in Mr. Ormerod's map was 50 miles long, and one was in direction of the magnetic meridian. In the south of England, the New Red Sandstone became much thinner, less complicated, and was deficient in salt.—Sir H. DE LA BECHE stated, that the variegated tints of the water-stones were due to a difference in the amount of oxydation of the ores they contained. The decomposition of vegetable matter had, in some places, reduced the peroxide to the condition, comparatively, of a protoxide, changing the red colour of the rock to a pale blue.—Mr. GREENOUGH remarked that salt existed below the coal measures in Durham, as well as in the New Red Sandstone, whilst the salt beds at the base of the Carpathians were of tertiary age.—Mr. W. SHARPE withdrew his paper which had been announced, on the same subject, recommending a visit to one of the salt-mines—the shaft of which was 112 yards deep, but so large, dry, and clean, that ladies might descend with safety; at the bottom was a square excavation in the rock-salt, 15 ft. high, and 400 yds. each way—the roof supported by several hundred pillars of salt, of a beautiful red colour. When illuminated by blue lights, it formed a magnificent exhibition.

PLUMBAGO.—At the British Association, Sir John Herschel mentioned a curious property recently discovered in the substance plumbago, or the black lead which pencils are made of. It is well known that that substance can only be obtained in any purity at Borrowdale, in Cumberland, and is lately becoming very scarce. Now, although the powder of plumbago is one of the best materials for preventing friction, or the partial adhesion of other things, yet it has been lately found that the particles of the powder themselves are capable of being made to adhere into a mass—indeed, more compact and uniform in its texture than the best mineral plumbago—by simply inclosing it in a case, extracting the air from among the particles, and subjecting the mass to violent compression.

SPONTANEOUS SOUNDS IN IRON AND STONE.—Singularly illustrative of the much-disputed property, affirmed by the ancients, of the sound emitted at sunrise by the statue of Memnon, in Lower Egypt, is the singular phenomenon of sound occasioned by the vibration of soft iron produced by a galvanic current. It was first discovered by Mr. Sage, and has been since verified by the observations of a French philosopher, M. Marian. The experiments were made on a bar of iron, which was fixed in the middle in a horizontal position—each half being inclosed in a large glass tube, around which were wound spirals of copper wire. A cord of copper wire was afterwards substituted for the two helices, and placed with its axis coincident with the axis of the bar. On completing the circuit, the longitudinal sound, although feeble, could be distinguished—the bar of iron being a little lengthened or expanded in the direction of its axis. The origin of the sound has, therefore, been attributed to a vibration in the interior of the iron bar, or a new arrangement of the molecules.

ATMOSPHERIC RAILWAY TUBE WITHOUT A VALVE.—Our indefatigable correspondent, Mr. A. T. J. Martin, has forwarded us a sketch of a plan for constructing an atmospheric tube without a valve—in which, however, we regret that his inventive faculties have been preceded by some two months' publication. If Mr. Martin will refer to the *Mining Journal*, of July 4th, 1846, page 284, he will find a description of an atmospheric tube forwarded by Mr. De la Haye, of Liverpool, precisely similar in every respect to the one he has now sent us. It consists of a tube cast with a longitudinal trough-shaped opening, covered air-tight with an elastic substance, and a ball rolling on an axis attached to the piston, beneath the covering, propels another ball revolving on an axis outside the covering, and attached to the leading carriage of a train. He will there also see our opinion of its merits, and its originality.

ADULTERATION OF FLOUR—USE OF BRAN WATER.—A correspondent, who signs "S. G. M.," in reply to "A Mechanic," on this subject, has forwarded us a communication, which, though it does not appear to us to be any reply to the question of detecting adulteration in flour, which was evidently the cause of "Mechanic's" pie-crust not being adhesive, is still a valuable piece of information to all who bake their own bread. It is a letter of the Rev. Francis Haggitt, prebendary, to the Bishop of Durham, from the *Weekly Entertainer*, of March 10, 1800, in which he states, that flour kneaded with bran water will produce a more substantial bread, and a greater quantity of it, than bread made in the common way. In the Rev. baker's experiment, he took 5 lbs. of bran, boiled it, and, with the liquor strained from it, kneaded 56 lbs. of flour, adding the usual quantity of yeast and salt. When the dough was sufficiently raised, it was weighed and divided into loaves—the weight, before being put into the oven, being 93 lbs. 13 ozs., or 8 lbs. 10 ozs. more than the same quantity of flour kneaded in the common way; it was then baked two hours, and some time after weighed 83 lbs. 8 ozs.—showing a loss in baking of 10 lbs. 5 ozs.; the same quantity of flour, kneaded with common water, losing 15 lbs. 11 ozs. and produces only 69 lbs. 8 ozs. of bread; the gain by the bran water is, thus 14 lbs. out of 70 lbs., or a clear increase of one-fifth; while the bran after being used in this way, is equally fit for many domestic purposes, and better for pigs and poultry than if given raw. This increase of 14 lbs., when only 5 lbs. of bran were boiled, appears at first astonishing; but he accounts for it thus—1. The water weighs half-a-pound a gallon more than common water—2. Owing to its glutinous consistence, it is less subject to evaporation by heat—3. A greater quantity of it is necessary to make the dough—viz.: 3¾ gallons, instead of 3 gallons; the 5 lbs. of bran weighed, after the liquor was strained off and while wet, 17 lbs. To persons who are in the habit of making their own bread—and there are many, even in London, who do, and send it to be baked—these facts must prove interesting; and, looking at the experiment in a chemical point of view, there is no doubt the decoction of bran would have a very considerable effect on the flour.

MINERAL WEALTH OF VIRGINIA, U.S.

The mineral wealth of Virginia is very great. In the vicinity of Richmond there is a large and productive coal region, where several companies have for years been engaged in extensive mining operations. Amongst these the most conspicuous is, perhaps, what is called the Clover-Hill Company. They raise the coal with the greatest ease, and can afford to sell it the most cheaply, as they got their lands at a very moderate price, when the real value was unknown. They can raise coal for 6¼ cents a bushel, and they have sold it for 12 cents. Under the tariff proposed by the present Government, this company could stand; but it would be, perhaps, rather a serious matter for its rivals in the vicinity, who have invested more capital in the purchase of their lands than the Clover-Hill Company have done, and who cannot raise so cheaply as that company do, as their coal is not so near the surface. The coal is bituminous, and comes in competition with the small quantities of Liverpool coal, which find their way to the cities of the north. The neighbourhood of Richmond also abounds with a species of natural coke, which is extensively burnt in furnaces and by locomotives, and as fuel is very generally used in private houses.

The principal iron region of Virginia is distant about 90 miles from the capital. The veins are numerous and extensive, they approach the surface very closely, and abound with an ore of a very rich quality. They are not as yet worked very extensively, the iron interests of Pennsylvania being at present overshadowing. There are several iron works at Richmond, the largest and most important of which are those of the Tredegar Company. These are employed, amongst other things, in the manufacture of bar iron, railroad iron, and cannon.

The mineral and manufacturing resources of Virginia are as yet but partially developed—rich in iron and coal, and abounding with excellent, inexhaustible, and very available water power. Mr. Lawrence, in his recent letters upon the tariff, attempted to bias the judgment of Virginia in favour of protection, by pointing to her as yet undeveloped wealth, as necessarily marking her out for becoming speedily an important manufacturing state. But Mr. Seddon, of Richmond, has recently shown, in his speech upon the tariff, that Virginia, notwithstanding the high protection afforded by various tariffs to domestic industry, has fallen back, instead of having advanced, as a manufacturing state. The whole amount at present invested in manufactures in Virginia does not much exceed $15,000,000.

On the passage of all the high tariff bills since 1816, small manufacturing establishments started at once into existence throughout the state. On the repeal of the high tariffs, these establishments have, with very few exceptions, invariably disappeared. The reason of this is obvious. High tariffs stimulate production in the north. This produces a periodical glut in the market, which brings down the price of such fabrics as can be more cheaply manufactured in the north than they can be in the south. Such manufactures as are indigenous to the south need fear no competition, and can consequently exist without protection. It is their interest not to stimulate the productions of the north, which they would do by maintaining a high tariff. The only competition which they have to fear is from the north—a competition about which they need not feel uneasy, so long as they do not stimulate the north to over production.

The foregoing affords but a very general view of the manufacturing interests of the southern states. I commenced, however, by stating that my present object was to give your readers a mere *coup d'œil* of the subject. The next section of the country to which, with the same object, I shall advert, will embrace the states of Maryland, Pennsylvania, and New Jersey; after which I shall furnish you with a general survey of the progress of manufacturers in the New England States.—*Correspondent of Morning Chronicle.*

ROYAL CORNWALL POLYTECHNIC SOCIETY.

[Continued from last week's Mining Journal.]

Machine for Covering Wire.—This was an improved machine by Mr. J. N. Hearder, of Plymouth, for covering wire with cotton or silk, for electro-magnetic purposes, &c. It is adapted to cover wire from one-quarter of an inch to one five-hundredth of an inch diameter; and the whole can be worked by a lad 18 years of age, with scarcely a possibility of doing wrong. It will cover wire at the rate of from one to two miles in 12 hours, and is so adapted that it can be made to cover double, the outer layer being transversely laid on to the inner one. The wire is covered with the greatest regularity, the machine having 600 different motions, all of which bear a known relation to each other—so that the velocity with which the wire passes, in proportion to the rate with which it is covered, can be adjusted with the greatest nicety; and the requisite degree of tension upon the cotton being given by delicately adjusted springs, prevents the liability of the cotton to break by the quick motion. The working of this very ingenious machine excited the admiration of the company.

Improved Cordage.—Specimens of cordage made on a new principle, and by a peculiar process, by Mr. Elias Christian, of Pool, were exhibited. It was stated, that the utmost strength of the dockyard 1 in. cordage was 7 cwts. 17 lbs., whereas the 1 in. cordage made by Mr. Christian was proved by the agents of East Pool Mine to bear a strain of 9 cwts. 3 qrs. 20 lbs.

Suspension Bridges for Railways.—Mr. Joseph Olver read a paper in explanation of a design by him for suspension bridges adapted to railways. Mr. Olver proposes by his plan to obviate the unsteadiness of the chains and suspension rods, with the want of rigidity in the platform, and its tendency to an undulating motion during the transit of loads, as well as in heavy gales of wind. He endeavoured to show how far these evils may be remedied for the ordinary road, and further how the plan might be applied to the formation of bridges for railways. The cost of a work of this description, of a span of 1000 ft., he estimated at 85,000*l.*, at the present rate of prices of materials and labour.

Temperature of Water in the United Mines.—Mr. R. W. Fox read a paper on this subject, which stated that the temperature of the water in some of the deeper workings in the United Mines had long been found to exceed that of our other mines of equal depth, and the temperature had greatly increased with the increasing depth of the mine. Capt. Youren, one of the agents of the mine, has found the temperature of a spring of water 251 fms. below the surface as high as 106½ Fah., and that it discharged about 94 gallons of water a minute into the deepest level on the middle lode. This lode had an underlie of about 2½ ft. in a fm. towards the north, and the spring flowed from its northern or upper wall—whilst from the opposite wall of the lode, and at the distance of only 3½ ft., there was another spring discharging 30 gallons per minute at 97½ Fah. The air near both springs was at 104½°. The lode is in "killas," and no other rock has been found contiguous to the springs, or within 30 fms. of them. Mr. Fox has found, on examination, that a quarter of a pint of the warmer water contained 15 grains of saline matter, consisting of muriate of lime and common salt in about equal proportions, and a trace of sulphuric acid, in combination probably with lime. Only 10½ grains of the same substances were found in the cooler water, but the proportion of common salt was less than one-half. Neither of them seemed to contain any metal, but both were saline to the taste, though in a much less degree than sea water, which contained about eight times the proportion of common salt. The high temperature of these springs, he thought, was an indication that they had ascended from a considerable depth through a *pervious* lode, and their composition being so nearly alike implied their having been derived from the same source. The warmer portions of water would naturally tend to ascend near the upper wall, whilst any cooler water let down from the strata above would descend on the inclined surface of the lower wall, and mixing with portions of the rising water would, of course, lessen its temperature. Mr. Fox thought it could not be doubted, that such ascending and descending currents were of common occurrence in veins and fissures, as well as at the junctions of different works; and that they had a great influence in modifying the subterranean temperature, and in very different degrees in different places. On former occasions he had examined water taken from various mines, and had not found it, when taken immediately from the springs or jets in the deep workings, to contain any metal except iron, and even that in very small quantities. He had seldom detected any common salt in mine water. In Poldice Mine it was in the largest proportion; and there also the temperature was remarkably great, rather exceeding 100° in one of the deepest parts of the mine. If the salt in these instances had been derived from the ocean, which appeared probable, the constant high temperature seemed to show that the sea water must have penetrated into the earth at a considerable distance—otherwise, the temperature of such considerable streams of water would rather be lower than higher than the springs in other mines not so circumstanced. Moreover, the pressure of the comparatively elevated land springs, and also of the ocean at great depths, would cause a tendency in the subterranean water to ascend through the bed of the sea near our coasts instead of the sea water descending through it. Mr. Fox then read a letter from Capt. Francis of the United Mines, in which the writer adduced facts relative to the temperature of water in those mines, and especially with regard to the great difference in the heat of water issuing from different parts of the same level. He came to the conclusion, that the temperature of the water depends on the time which it requires to pass from its source to the different parts of the mines, and also on the medium by which it is conveyed. The writer further observed, that it was a commonly received notion that the highest degrees of temperature are indications of large bodies of ore being contiguous, if not actually open to sight; but at the United Mines, and in others also, the lodes in those levels where the heat is greatest are almost without ores, and both the lodes and the rock above them are hard and compact. At the same time he admitted, that such lodes had been found, somewhere, to contain large quantities of copper ore; but his object in making the preceding remark was rather to show that the presence of great heat was not to be considered an infallible indication of large masses of ores being near at hand. It should also be observed, that those lodes which yield the most copper ores generally hold considerable quantities of other minerals, such as iron pyrites, arsenic, &c.; and it became a question, whether these might not account for much, if not the whole, of the heat in the mines.—"That most of the lodes, and especially those which have yielded large quantities of copper ore, have at some period been under the influence of great heat, there can be no doubt, and to such an extent as to fuse their contents; and I see no reason for believing otherwise than that intense heat still exists in them at a distance from where they have been penetrated; but it should be remarked, that the symptoms indicating the action of heat are not so frequent or strong in the deepest parts of those mines which have been worked to the greatest depths, as they are at the higher levels, and especially near the surface, where gossan, at the depth of a few fathoms, or even a few feet, usually exhibit the fact in the clearest manner. I have had numerous opportunities of witnessing the fact just named in the deep mines in the Gwennap district, and in almost every case the lodes at the lowest points are composed of a hard compact quartz, free from the presence of all minerals, and yet the water issuing from those parts is of the highest temperature, which certainly strengthens the opinion, that the source of heat is from a still greater depth; and its effects not being so evident in those places, may be accounted for by the absence of those substances in the lodes on which the action of heat would manifest itself. But whilst it is admitted, that the temperature increases with the depth, it should be observed, that it is not found to be the same, at the same depth, even on parts of the same mine, which were only a few fathoms distant from each other. In different mines in the same locality, and on precisely similar formations, the result is often very different. As instances of this, I will refer to the Consolidated Mines which adjoin the United Mines, and the lodes in each bear the same direction, and run parallel to each other. The former have been worked to the depth of 316 fms. from surface, whereas the latter have only been worked 260 fms. or 56 fms. less than the first. The highest temperature in the Consolidated Mines has been 98° Fah., whilst in the United Mines it is 106°. Again, at Treavean, the depth of which is 320 fms. from surface, the highest temperature yet observed is about 95°. It should, however, be noticed, that the deepest part of Treavean is in granite formation, and that the Consolidated and United Mines are in slate. These circumstances go to show, that there must be other causes producing heat apart from the mere depth of the mines; and without attempting to assign the origin of this heat, I cannot help remarking, that it appears to me to be the effect of immense bodies of mineralized matter disseminated through the great number of veins with which the district of which I have been speaking abounds, and which have been, and still are, powerfully acted on by galvanic agency."—The Chairman said the communication they had just heard only confirmed the various experiments made by Mr. Fox and others on the temperature of water in mines. This paper, however, entered into the probable causes of difference better than any he had heard before.

THE IRON TRADE IN AMERICA.

[We have taken so prominent a part in directing attention to the effect the alteration of the American tariff of duties is calculated to have on our iron trade, that we feel called upon to publish the following particulars, which we find in the *Birmingham Journal*, as being the letter of an American correspondent; the article contains some statistical data, which will prove of interest to our readers, and as such we submit it to their attention.]

There is not so much ground to fear as interested parties would have us believe. The American manufacturer is still able to compete with the British in most branches, and to beat him in many, in this market. The diminution of protection on leading articles is, after all, not so very large—for instance, the duty on pig-iron is now $9 per ton: the price of this article is now 4*l.* 7s., or nearly $21, and the 30 per cent., charged under the new tariff on cost here, will amount to $7 per ton. Refined English bars are quoted, in Liverpool, at 10*l.* 15s., the duty on which would amount to near $19 against $25 under the old (or present) tariff; but, in some kinds of manufactured iron, its effect is much more favourable to the British maker. Take this, for example—

80 bundles Staffordshire sheets, weighing 85 cwts. 0 qrs. 25 lbs., or 9545 lbs., at 2½ cents per lb. duty, the present tariff	$	238 62
Costing £58 17 9		
Commission (2½) ..... 1 9 5—£60 7 2, or $293, at 30 per ct. (new tariff)		87 60
	$	151 2

being a decrease of 63·29 per cent.; while, in hammered iron, it will be found to afford an increase of protection to American manufacturers of 60 or 70 per ct.

There is one fact connected with levying duties on goods under the new law, of which, perhaps, some of your exporting readers are not aware. The change from specie to *ad valorem* duties, subjects many articles to charges levied in the way of inland transportation, from the place of manufacture to the point of shipment, exempt before. The 16th section of the Act of 1842, which will be in force under the new law, declares, that, in all cases, the "costs and charges" shall be added to the invoice, and the duty assessed to the amount. One would naturally suppose that "costs and charges" referred to freight; but, according to ancient Treasury circulars, and the practice of revenue officers, "costs and charges" are made to cover the expense of transition from the place of manufacture to the port of shipment, including 2½ per cent. in England for delivering and clearing on shipboard. The following facts are derived from an official source, and their accuracy may be relied on:—

Inland transportation from points of manufacture to places of shipment, supplied from the United States Appraisers' Office, New York:—

Place of Manufacture. Sheffield to Liverpool—	*Average Transit Charge.*	*Commission.*
Hardware, files, edge-tools, cutlery, sent by manufacturers	3 per cent.	2½ per cent.
Other cutlery	5 ,,	2½ ,,
Dixon's ware	3 ,,	2½ ,,
Sheffield goods, from Birmingham	5 ,,	2½ ,,
Sheffield goods	5 ,,	2½ ,,
Cases of woollen or cotton goods from Leeds and Manchester to Liverpool	£1 each	—
Iron, per ton, from Wales to Liverpool	7s. 6d.	2½ ,,
Ditto, ditto, from Glasgow to Liverpool	6s. 0d.	2½ ,,

From this it will be seen, that, if the system is put in practice, the incidental duties amount to a high tariff; for example—

INVOICE.

Five tons pig-iron—at, say, 4*l.* 7s. 6d. per ton	£21	15 0
Transit charges from Wales to Liverpool, 7s. 6d. per ton	1	17 6
Commission, 2½ per cent.	0	11 10
30 per cent. duty on ditto	7	1 3
Total	£31	5 7

We here find a duty actually of 45, instead of 30, per cent. This scale of charges is obtained from the Appraiser of the Custom-house here: whether they are to be imposed under the new tariff, is at present doubtful. The Secretary of the Treasury has not yet issued his instructions to the collectors at the different ports—his circular is looked for with some anxiety.

Since the passing of the Act, many contracts for iron in Pennsylvania had been suspended; and, in one instance, I know that a proposition for 6000 tons was withdrawn, with the intention of sending the order to England; but it appears doubtful to me, whether—considering the recent advances in England—it can be imported from thence, even at the reduced duty, cheaper than it can be manufactured here. The following computation is furnished by an iron-master of Pennsylvania, to the official paper at Washington:—

Scotch pig, last accounts, was worth 4*l.* 7s. 6d. per ton, at 4s. 6d. to the dollar	$	19 15
30 per cent., even if the valuation be taken at Glasgow, per ton		5 85
Freight, insurance, and all charges, at least		5 25
Total	$	30 60

Our anthracite furnace owners boast they can make a ton of pig-metal, certainly, for $15 per ton—some say as low as $13 per ton.

One ton American anthracite, at the highest	$	15 00
Freight to market		5 00
Commissioners and guarantee, 7 cent. on sale—say, at $30 per ton		2 10
Total	$	22 10

It will be a difficult matter for the ironmasters here to reduce the price of wages, as the pay of the workman is now, in some instances, lower than in England, and in no case, I believe, is it higher. I need not tell you, that the men are nearly all British or Irish, and that they are paid chiefly upon the truck system. The reduction of the duties upon coal, although disastrous in its consequences to the mining interests, will assist the ironmakers in the New England States, as it will be delivered from Nova Scotia for about 18s. per ton of 28 chaldrons, or $2 less than the anthracite has sold for.

Lake Superior Mineral Region.—The rapidity with which report follows report of developing wealth in the country on and about Lake Superior, has induced us to turn our attention to that quarter. We find that there are now about 90 companies purporting to carry on the working of the silver and copper mines of that district. The following table will show from whence the means are supposed to be drawn for the support of these extensive operations:—

No. Cos.	Shares.	Directors residing at
12	48,500	New York.
24	84,000	Boston.
5	13,500	New York and Detroit.
17	63,000	Detroit.
11	53,000	Other parts of Michigan.
3	13,500	Vermont.
15	30,000	Miscellaneous.
87	305,500	

This is probably below the number in operation; but assuming from this number the low average of $50 for each share, we have the grand aggregate of $15,275,000 as the nominal capital employed. If all these companies are indeed fair and above board in their dealings, and are legitimate enterprises, then the country operated in must be one mass of copper, boundles and inexhaustible. Boston seems to have entered the most extensively into the business.—*New York Herald.*

French and Belgian Lines.—It appears, from two official railway documents, lately published in France and Belgium, that, notwithstanding the gifts of land and other advantages conferred by the Government of these countries on the companies which obtain the "concession," that the expenses of constructing their lines are not, on the whole, less than those at which railways are now constructed in this country. Though some years ago, the average cost of constructing English railways was about 30,000*l.* per mile, the average estimates of those lines which obtained their bills last session, will not exceed 18,000*l.* per mile, which is as near as may be the average cost of construction in the case of continental railways generally. The French and Belgian lines are mainly worked under the direction and control of the Governments of these countries, which may account for the fact—though, in many instances, the lines are only single, and the trains not half so numerous as in England: the average expense of working them is 48½ per cent. on the total receipts; while, in this country, the average cost of working does not exceed 33 per cent. The mention of this will account for the fact, that while the average per centage paid to the shareholders in the French and Belgian lines is 4½ per cent. on the capital invested, the average per centage paid to the shareholders in the English lines approximates to 6 per cent. It is a curious fact, in the case of continental lines, that the shortest railways pay the best. M. Desait, who was appointed by the Belgian Government to inquire into the comparative traffic on long and short lines, gives as the result of a most careful investigation, that the number of passengers proceeding by railways rapidly decrease after the first six or seven miles have been travelled. He mentions, in proof of this, that last year Brussels sent 57,728 passengers to Vilvorde, an obscure and unimportant town, with scarcely 4000 inhabitants, but only 6½ miles distant; while to Ghent, a town of great commercial importance, and containing a population of 96,000 souls, but 49½ miles distant, only 39,443. It is the reverse in England; the longest lines are by far the most productive. It is calculated that, out of every 1,000,000*l.* of capital invested in French and Belgian lines, shares to the extent of 600,000*l.* are held by Englishmen.

THE GOGOFAU MINE, PUMPSANT, CARMARTHENSHIRE.

By Warington W. Smyth, M.A., Cambridge, F.G.S., Mining Geologist to the Geological Survey of the United Kingdom.

This mine, which has so long attracted the attention of the antiquary, is situated on the left bank of the Cothy, forming part of the grounds of Dolau Cothi, the residence of Mr. Johnes, to whom the survey is indebted for much valuable aid during its progress in that part of Wales. He informs us, that the traditions of the country point to the Romans as the originators of these works, and that they were carried on in search for gold. The remains of Roman pottery, ornaments, and a bath, afforded reason, Mr. Johnes considers, for presuming that there was a Roman station near this spot, connected with the mines. Several gold ornaments have been discovered, and a beautiful wrought golden necklace now in the possession of Mrs. Johnes. The name of the parish, Conwil Gaio, tends also, Mr. Johnes remarks, to the conclusion, that the Romans occupied this ground, provided the interpretation given to it be correct, for Conwil Gaio is supposed to signify "the advanced post of Caius." The name of Melin-y-milwyr—*Anglice*, "The Soldiers' Mill,"—is given to the remains of a pond, supposed to have supplied the works with water, brought for a distance of 8 or 10 miles, allowing for curvatures, along the sides of the hills, from a place in the Cothy called Porth uffern, or Hell's Gate. This old water-course can still be traced, at intervals, for the distance. The allusion to soldiers is considered to have reference to the Roman soldiers who may have been employed in the works.

The Romans were, of all the nations of antiquity, the most successful in bringing their colonies to a high state of prosperity, which, considering the military nature of their colonization, we should hardly be prepared to expect; and we find that their settlements in the north, south, east, and west, still remained vigorous, whilst internal corruption destroyed their great centre; and that they only fell when their protecting troops had been recalled, and they were left a defenceless prey to the barbarian swarms which formed so striking a feature of those times.

Among the various ways adopted by the Romans for augmenting the commerce of their settlements, there are two, of which the traces still remain; the improvement in communication by the laying out of good roads, and the development of the mineral wealth of a country by mining; and since authenticated remains of the latter are very rare in this country, it becomes important to examine with care whatever is attributed to the agency of that great people, and to compare it with their known works in other parts of the world.

It has been a matter of surprise with those who visited the Ogofan that iron pyrites was the only ore visible, and that large heaps of apparently pure quartz, carefully broken to the size of a common nut, were alone found. The geological survey discovered, however, a specimen of free gold in the quartz of one of the lodes, and thus corroborated the evidence which tended to prove that the mines were worked for gold.

The majority of the workings, extending to a considerable depth for some acres over the side of the hill, are *open to the day*, or worked, as usual, in the early days of mining, like a quarry; and the rock through which the lodes run, a portion of the lower Silurian rocks, is in many places exposed, and exhibits beds much contorted and broken, though having a general tendency to dip northward. Here and there a sort of cave has been opened on some of the quartz veins, and in some cases has been pushed on as a gallery, of the dimensions of the larger levels of the present day—viz., 6 to 7 ft. high, and 5 or 6 ft. wide; and amongst these, two of the most remarkable are kept clear by Mr. Johnes, and being easily accessible, allow of close examination. The upper surface of the hill is at this, the south-western, extremity of the workings, deeply marked by a trench running N.E. and S.W., similar to the excavations technically called *open casts*, where the upper portions of the lodes were in very early times worked away; and when it was afterwards found disadvantageous to pursue the lode in this manner, a more energetic and experienced mind must have suggested the plan of driving adit levels from the north face of the hill through the barren rock in order to cut the lode, at a greater depth than it could otherwise be reached; and the perseverance exhibited in driving 170 ft. through the slate in each of the levels in question, was no doubt based on a sufficient knowledge of the continuous nature of a mineral lode.

The upper level communicates with the trench on the surface of a *rise* on the lode, and with the lower level by a passage of some few feet in length, through which it is barely possible to creep, and then by workings from which a considerable quantity of matter has been removed. The miners could hardly have selected a spot where they could with greater reason hope for success, since several lodes with different inclinations have crossed each other in this small space; and it is evident that further excavations were carried on at some depth, farther to the N.E., for the breaking in of the rock above has given rise to funnel-shaped hollows of considerable size on the surface.

The veins or lodes of quartz vary many degrees in their line of direction, and dip at angles of from 28° to 80°—some to the S.E., others to the N.W.; and their width varies from an inch to a foot. The quartz is chiefly massive, and not very transparent—it frequently contains iron pyrites of the ordinary variety, crystallising in cubes, and a few specks of galena may be detected in some parts.

The extended open-cast workings to the westward appear to have been carried on through and around an intersection of quartz veins, similar in character, though more extensive and metalliferous than the above; but as the ramifications recede from the centre, the useful contents must have diminished in quantity. We have carefully examined the quartz matrix from all the old workings, but the above-mentioned minute particle of gold remains the only specimen of the precious metal which has rewarded our search.

At an inconsiderable distance from the old workings lies a large block of sandstone, approximating in form to a four-sided prism, the faces of which are indented by rudely circular and elliptical hollows of some depth, evidently caused by artificial attrition. It appears highly probable that this stone was employed as a mortar for the purpose of breaking up or *bucking* the ore, a process still in use in cases where it is important to pick out valuable portions by hand. The traditions of the country, however, refer its indentations to a much more marvellous cause, connected with the five saints from whom the adjacent village, Llanpumpsant, derives its name.

In considering the proofs of the Roman origin of these works, one of the most remarkable points is the large size of the levels; whilst we know that the galleries of mines, for some centuries previous to the general application of gunpowder in blasting, were made so small as to render it very painful to walk through them for an hour or two. Examples of this are frequent in the older mines in Cornwall, and still more so on the continent of Europe; nor till we go back to the time of the Romans, have we anything with which we can compare the *Ogofau*; but in the extraordinary hill called *Csetate*, or fortress, at Veresptak, in Transylvania, the grand arches and roomy tunnels wrought in hard sandstone and porphyry by that enterprising people, throw into the shade the puny works of their followers, and prove that the art of extracting gold from quartz—even where invisible to the naked eye—was then understood. This place was, no doubt, an important spot in Dacia Ulterior; and the ornaments and implements of massive gold frequently found in the neighbourhood, and mostly deposited in the Imperial Cabinet at Vienna, bear witness to the abundance in which this precious metal was obtained.

If we examine Pliny for the state of knowledge on this subject among the Romans, we find that gold was obtained by three processes:—first, washing the sands of certain rivers; secondly, following the lode by shafts and levels (*puteis et cuniculis*), whilst the earth is supported where necessary by props or pillars of wood; thirdly, by excavating hollows of larger magnitude, supported for a time by arches of rock, which are afterwards gradually removed to allow the whole superincumbent mass to break in. The ore is broken, washed, burned, ground to powder, and pounded with pestles (*quod effossum est, funditur, lavatur, uritur, molitur in farinam, ac pilis cuditur*). In Transylvania we may see to this day the results of the two latter processes.

A sentence from Cicero has often been quoted to prove that the Romans imagined there was no silver in Britain; but Tacitus, in his *Life of Agricola*, expressly states the occurrence both of gold and silver, *fert Britannia aurum et argentum et alia metalla, pretium victoriæ*. Whence, knowing that the method of extracting finely impregnated gold was practised by them, and that this metal was recorded as a produce of Britain, we need only to recollect that the flourishing time of Dacia as a colony was under Trajan; and therefore, long before the legions were recalled from this island, to support on strong grounds of probability, the assertion that the *Ogofau* were Roman gold mines; and in order to dismiss all doubt on the subject, we have only to add the evidence which Mr. Johnes has deduced from the various antiquities found in the vale of the Cothy, from which it is clear that there existed at this spot a station of some importance.

French Institute of Civil Engineers.—A proof of the superiority of British over French engineers, will be found in the fact, that nearly the whole of their railways, hitherto consructed, have been completed under the superintendence of the former; men well known for their scientific attainments, and their intimate acquaintance with railway engineering, which is so necessary to carry out not only efficient, but profitable lines. Far be it from us, to disparage the attainments of the French body of scientific and practical engineers—many there are of the highest pretensions—but it is the Institution of Civil Engineers, in England, of which Sir John Rennie is president, which has developed so many good practical results, and has proved a stimulus to so much beneficial railway enterprise in this country, and which has made our engineers so renowned in every portion of the globe, in the perfection of the steam-engine, and other machinery, for mining, railway, and other works of a gigantic nature. Impressed with the benefits which this excellent institution has conferred on practical science in this country, several eminent French engineers have formed a society, for the purpose of organising an institution in France, on the same basis. The annual subscriptions will be regulated by a committee; but the following are the terms at present proposed. Titular or honorary members to pay 4*l.* 16s. 8d. per annum, free associates 3*l.* 12s. 6d., and corresponding members 2*l.* 8s. 4d. Should the project be successfully carried out, of which we have very little reason to doubt, patronised as it is by some of the first men in France, it will bring forward many clever men, who are now kept in the back ground by a rather monopolising influence, and throw open a wide field for the active operation of the engineering talent of the country.

The Electric Telegraph in America.—A communication has been received by the Paris Academy of Sciences, from Mr. Morse, giving an account of the extent of the telegraphic lines already established in the United States of America. It is as follows:—Albany to Buffalo, 350 miles; New York to Boston, 220; New York to Albany, 150; New York to Washington, 230; Washington to Baltimore, 40; Baltimore to Philadelphia, 97; Philadelphia to New York, 88; New York to Newhaven, 84; Newhaven to Hartford, 30; Hartford to Springfield, 20; Springfield to Boston, 98; Albany to Rochester, 252; total 1659 miles. Mr. Morse states in his letter, that the electric telegraph is now the chief mode of transmitting all the news of the Government, and the important correspondence of merchants, and of the public generally. Its influence has, he says, been already felt by the press. The journals of the large towns, which were taken in the country on account of their giving the most recent news, have lost a great number of their subscribers, whilst there has been a very large increase in the circulation of the journals of the small towns near the extreme points of the electric telegraphs. The extent of the lines of electric telegraphs in France is very small, as compared with the account given by Mr. Morse; and from the very slow progress made by the committee on telegraphs appointed by the Government, and at the head of which is M. Arago, a long time must elapse before we reach here the total given by that gentleman. We have not heard that the committee has as yet sent in any report on the various systems of telegraphic communication, particularly those of Mr. Morse, and Mr. Bain, of Edinburgh, which have been submitted to it. It is quite time, however, that the report should be made, and that whatever is good in each should be adopted, and the authors handsomely remunerated, instead of resorting to the unworthy plagiarism which is said to have been recommended, and which would almost amount to piracy.

The daily customs receipts at Liverpool have risen from 7000*l.* and 8000*l.* to 13,000*l.* and 14,000*l.*

Original Correspondence.

WHAT IS THE COST-BOOK SYSTEM?

Sir,—As no attempt has yet been made to contradict the letters which have appeared in your paper, describing the above subject, I may, I trust, without presumption, conclude that a satisfactory answer has been given to the question, and that the benefits of the Cost-book Method are understood and acknowledged. Some alarm, however, has been created amongst shareholders in Cost-book mining companies by the agitation of this question; and, to remove any uneasiness which may exist in the minds of those interested in the consideration of the Cost-book Plan, I will endeavour to show that the most plausible objections, which have hitherto been made to it, are, for the most part, chimerical. The principal arguments against this method seem to be—1. The liability which the purchaser of an adventurer's interest incurs for cost, or debt contracted, antecedent to the purchase of such interest; and 2. The mismanagement of companies constituted upon the system. The former objection is made in direct contradiction to all established notions of fair dealing; and the latter is so general in its nature and application, that it does not apply to Cost-book companies in particular.

The first objection—although it has been answered in former letters—will be shown to be erroneous, if it is considered that, when a transfer of shares is executed, the seller resigns not only his present and expected interest, but also his present and future responsibility. If, then, an order be given for supplies or other necessaries by the directors, or other properly-authorised persons, it is presumed that the fulfilment of such order will be for the benefit of all interested; and that each member of the society will contribute his proportion to the cost. If, therefore, a shareholder resigns his interest, the completion of a given order being at the time of such resignation contingent or future, the assignees of such shareholder would, of course, become responsible. This is so fair and honourable on the face of it, that the wonder is not that so many make the objection, but that it is *ever made at all.*

The charge of mismanagement generally applies to companies in which the Cost-book Method is only *partially* or *imperfectly* acted upon. The system, when strictly adhered to, *prevents mismanagement*, not only of directors, but shareholders, pursers, and others, engaged in the concern. The directors can check the purser's or captain's proceedings; they can scrutinise the accounts; and, after some experience in the company's affairs, they can detect and prevent dishonesty in their agents. The shareholders, with the power which this system secures to them, can, in like manner, investigate the proceedings of the directors—and thus mismanagement is for the most part obviated. I think, therefore, it will be seen that directors, when judiciously selected, and their duties properly performed, are of the greatest use, not only in guiding and protecting the proceedings of the mine agents, but in directing the movements of the shareholders. Many mines which have been brought to a profitable state would have been abandoned at considerable loss, had it not been for the spirited conduct and example of the directors.

This is a truth, which you, Sir, and many of your readers, will, I am sure, acknowledge. I must, therefore, repeat, that the services of directors are of the greatest utility,—and more particularly, when the members of such direction or committee are men who have been long engaged in the discharge of such duties. Experience in all things renders knowledge practically useful; and, if this truth applies *generally*, it is *particularly* applicable to mining, where *practical knowledge* is most needed.

I have, I think, shown that the principal objections which have hitherto been made to the Cost-book System, are not founded either on truth or reason; and, though my latter remarks do not, strictly speaking, belong to the subject, they may serve to prevent any innovation of a system which is fair, honest, and equitable.—I. E.: *Ashley-terrace, City-road, Sept.* 22.

MONMOUTHSHIRE AND GLAMORGANSHIRE BANKING COMPANY, AND VICTORIA WORKS.

Sir,—What my name has to do with Mr. Beaumont, I cannot see; I am an occasional correspondent to your Journal of some years' standing, and have supplied much valuable and interesting information connected with the counties of Monmouth and Glamorgan, from time to time, for your columns. You know who I am, and, as a public journalist, know best what reliance may be placed on my communications, and have the power of acting accordingly, by rejection, or otherwise. It is quite a new theory that, because communications are anonymous, they must be false. I should like to know what amount of correspondence our newspapers would have, were anonymous writers excluded. When my name is necessary, it shall not be withheld. But to the point. My first letter was, to some extent, a reply to "An Inquirer" of the previous week, seeking information relative to the bank, in connection with the Victoria Works. The other part of it called public attention to the system pursued in the working of the mines, and the probable danger to be apprehended therefrom. To the first Mr. Beaumont does not deny—1. That the average make of *both* furnaces from the "blowing in" in April, 1845, to August, 1846, does not exceed 90 tons per week.—2. That the quality of such iron is inferior, or "forge iron."—3. That the united make of both furnaces does not exceed two-thirds of the make of *one* of the furnaces at the adjoining works.—4. That the Chancery suit, "Frazer *v.* Hall," is in exactly the state described by me, and that the bank is in a most awkward fix in consequence. Nor to the second part of my letter (as well as my last letter) does Mr. B. attempt to deny that the mineral agent, Mr. Adams (together with others) did not represent that great danger was to be feared from fire, arising from the almost non-ventilation of the workings; but speciously enough contents himself by saying, that Mr. Adams never advised him (Mr. B.) to "suspend the operations." After Mr. Beaumont's letter of Saturday last, I made up my mind to visit Victoria—not that I had any misgivings as to the correctness of the information I had previously received, but to enable me now to speak of my own knowledge as to its correctness. My steps were first bent to find out what was doing at the "Deep Pit." There I learnt, that the whole of the men had been withdrawn, that one man had been burnt, and that the only operations now going on were by *two* men only (Thomas Saunders and John Edwards by name), driving an air-course forward in direction of a pit now sinking to the bottom mines; the winding-engine, pit framing, and everything in good order for raising a large supply when gotten, and the furnaces very scantily supplied—how comes it then, Mr. Editor, that the men are withdrawn? Mr. James Beaumont, answer this question.

The Victoria Iron-Works are absolutely in a worse position, as regards supply of materials, than they were 18 months since. As to the Chancery suit, why was it ever instituted? To enforce an agreement for a lease alleged to have been entered into with Sir B. Hall. The Chancellor has already stated, that there exists no valid agreement for a lease. Lease or no lease, is the sole gist of the matter, and the Chancellor has virtually decided that point. Chagrined and disappointed by this, the suit is protracted, with scarce a ray of hope, and the shareholders victimised.

The only point not disposed of, between Mr. Beaumont and myself, is that of the cost of iron at Victoria. I am prepared to stand by the account already given; but let us refer to Mr. Mushet's report, made at the close of the year 1841. That report shall supply every item in the cost, only adding the amount of three advances in wages of 10 per cent. each since that period. Be it, however remembered, that, in giving these figures, Mr. Mushet assumed that the works should be carried on in full work, such as four furnaces in blast, each making a fair average in quantity of iron, as compared with others in Wales, and *not*, as at present and for 18 months past, working one of the largest blowing engines in the country, and manning *two* furnaces, doing the work of two-thirds of one furnace only—thus increasing the amount for labour considerably. As follows is Mr. Mushet's statement of cost of iron at Victoria:—

4½ tons Black Pin Mine (page 22), 10s. per ton	£2	5	0
3½ tons coal (page 17), 3s. 6d. per ton	0	11	4½
1 ton limestone (ditto), at 3s. 6d.	0	3	6
Wages, including horse labour (ditto)	0	10	0
Common charges (ditto)	0	2	6—£3 12 4½
Add—Three advances in wages, of 10 per cent. each			1 3 1½
Royalty on 8 tons materials used, 6d. per ton			0 4 0
Delivery to Newport, and shipping charges			0 5 6
Total			£5 5 0

First cost of works to the bank (say) £13,000
Outlay in starting the same ..... 7000—£20,000

Interest thereon, at 5 per cent. per annum, will be 4*s.* 3*d.* per ton, on 90 tons of iron per week—total cost, 5*l.* 9*s.* 3*d.* per ton. These figures are below those given by me considerably; but I content myself, because Mr. Beaumont *must* admit so high an authority as that of Mr. Mushet. The selling price of such iron has not exceeded 4*l.* per ton. To conclude, let the bank directors take, in this their dilemma, the best disposable means of fighting Sir B. Hall at the least cost, and not allow themselves to be influenced by ridiculous, foolish pride. Why cannot the battle be carried on by a total stoppage of the works, at a loss of 1500*l.* per annum only, instead of, as at present, at least 8000*l.*? This is what the shareholders should insist upon. It is undoubtedly a "bad job," arising from want of common precaution; and such an error, that a Scotchman, coming so far north as Aberdeen, should not have made. For the present I take leave of the subject, thanking you for the use of your columns, and in the full assurance that I have fairly stumped Mr. Beaumont's "wickets." Still—A Looker On. *September* 23.

MINING IN CARDIGANSHIRE.

Sir,—On looking over your paper of Saturday last, I find a letter signed "Geologist," which has for its subject the mines of Cardiganshire. Now, as I am not a geologist, I shall not quarrel with the theory he has therein advanced, although to my dim understanding it appears very erroneous, and by a strangeness of expression (peculiar I suppose to the writer) is garbled in an obscurity which leaves the reader to wander in a darkness like that which befell Egypt, so sore as to be felt, and compel the seeker for information to grovel in an undefined path, which oftentimes leads to the gulph of error. I have before said, I am not a geologist; yet it was a science I was thinking to study, and on this account have read two or three of the most popular theories on the subject—but I must say that each is so widely different, and filled with assumptions, their arguments so speculative, and their opinions so conflicting, that at the onset I fell sick with the subject. But as "Geologist" (who appears to me to be so far inspired as to foretell future events) may have something in his cranium, which is more inviting and worth looking into, I would fain ask him to propound his new theory, and let the world have the benefit of it—for, I can assure him, I am very poor; and if he can tell me where I may go and find a good lode, so as to enrich myself, he will do me the greatest favour—at the same time, the satisfaction will redound to him, that he has not only benefitted one poor wight, but conferred an inestimable boon upon his species, for which they must ever be indebted to him. But let me beg him to confine his remarks to the subject, and not fill up half of his letter with a complexity of sentences, which has no connection with the matter he professes to treat on. He must know that others, as well as himself, are aware that civilisation is extending in America, and that the corn-law has lately undergone an alteration. But we cannot but be obliged for the kindness of him, who, contrary to the astrologers of old, wishes to enlighten our darkness by information on every point, and show us that he has at last found the true philosopher's stone, which all may find by following his guidance. "Geologist" may be able to tell us more than this, as he has foretold that the Cwm Sebon ores will fetch 18*l.* per ton in 1848: he can also, I presume, say that their quality will not be lessened, and the exact quantity which may be raised, to what depth the ore will continue, and what year it will be found necessary to discontinue operations, provided the extraction goes on at a certain number of tons yearly. This information, I am sure, will be thankfully received by parties interested; and as "Geologist" developes his theory, he can just say at what period of time the next "protrusion" and "injectments" of new veins will take place.—Ignoramus: *Pimlico, London, Sept.* 17.

IRON SHIPBUILDING.

Sir,—A paragraph has been inserted in some of the papers, to the effect that the Admiralty have been making experiments with powder, ball, and cannon, on iron vessels; and that the result not being satisfactory, no more iron ships are to be constructed for the navy. It is not stated in that notice whether the balls went through, or broke, the *plates* or the *fastenings*. Perhaps, some of your correspondents will enlighten me, before further considering the subject. It is possible, that the impingement of a point of the circumference of a ball in the line of force may have broken the plates.—Alfred T. J. Martin: *Penzance, Sept.* 18.

THE CHLORIDE OF ZINC.

Sir,—In a paragraph relating to Sir William Burnett's patent process for the preservation of timber, you allude to the *antiseptic* properties of chloride of zinc. There can be no doubt that *all* the chlorides are more or less so; but the most interesting features of the question are—whether they are *safe* in their application? Under what circumstances they are converted into hydrochlorides or muriates? When their efficacy is lost?—and, whether such muriates are *deliquescent* salts, or have a tendency to abstract moisture from the atmosphere?

Sir H. Davy had already recommended bichloride of mercury, or "corrosive sublimate," as a preservative in the case of MSS., &c.; and Kyan's patent was founded on the antiseptic properties of solution of corrosive sublimate in the preservation of timber. Davy very properly *abandoned* it, from a consideration of its danger; and the results of Kyan's process have proved to the letter, that I was entirely right in my condemnation—having felt it my duty to record an adverse opinion from its first introduction. Metallic chlorides in contact with moisture, pass into muriates or hydrochlorides. By far the *safest* antiseptic, and I will add the *best*, both for the dissecting-room, and in cases of infection, or contagion, is, beyond doubt (if of sufficient strength), *chloride of lime.* If, in solution, a small portion of sulphuric acid, added from time to time, will soon evolve sufficient to counteract any noxious miasmata or effluvia; and if the hands be simply washed with dissolved chloride of lime, its antiseptic properties will remain for hours—a property which renders it invaluable to the medical practitioner, and to nurses in attendance on fever patients, &c.

You have alluded to *paper*, in reference to chloride of zinc. It would be difficult to find a question of more intense interest. Already have both paper and ink been destroyed to a vast extent, by the injudicious and too copious employment of chloride of lime. This destruction is manifested in many thousand instances; valuable deeds and MMS. have become a *carte blanche*, or mouldered into dust; and books have crumbled on their shelves, and their leaves fallen to pieces, or exhibited blotches of decay, which have pervaded the entire volume—this was more especially the case some years ago; and more than 20 years have elapsed since I drew public attention to the question of the ruinous condition of paper in my work on "*Modern Paper*," which had the tendency to check the mischief. The evil was twofold—the bleaching energy of the chloride of lime expunged the manuscript; and the chloride of lime used in bleaching the pulp becoming converted subsequently into *muriate of lime*, a highly *dilliquescent* salt, the paper became eventually a prey to damp. I make these remarks to show, that the question of *paper* should be approached with care and caution—the entire round of literature, and other subjects of momentous interest, are involved here. I have no hesitation to say, that the chloride of zinc must be rejected, as far as *paper* is concerned, in the suggested application of that agent. *Portland-place, Hull, Sept.* 23. J. Murray.

TURIN—GAS, &c.

Sir,—Your Journal of the 19th instant announces the proposed lighting up of the city of Turin with gas. I confess I have always regarded that project as impracticable, from the immense cost of coal, if England is to be the source of supply. I remember the Marquis Ridolfi, of Florence, having shown me a very neat and economical apparatus for the obtainment of gas from billets of wood. This was in 1818, and he had then only recently constructed it; whether it has been generally employed in Florence, or other parts of Italy, I am not prepared to say. The principle seemed best adapted for purposes of domestic economy; but it might, doubtless, be extended to public illumination, though I cannot divine where the wood is to come from, sufficient to light up the streets of Turin; the silkworm cannot be deprived of the leaves of the mulberry, nor the Italians of their rosaglio—the produce of its fruit; and the Po, denuded of its picturesque poplars, would lose its "excellency." I am unable to conceive of a finer *coup d'œil* than that of the streets of Turin well illuminated with gas; these streets are uniformly elegant, and diverge like radii from a common centre. I cannot but think that Tuscany possesses coal; and, if her Government would seriously explore her subterranean resources, or the Tuscans were a people of enlightened enterprise, they might make available these natural supplies of national wealth. The Tuscans, too, live under a comparatively beneficent Government, and enjoy many privileges and immunities, from which other regions of that part of the continent of Europe are excluded. I am led to these reflections by a double class of phenomena, which the traveller may witness among the Appenines, at Pietramala, on the Tuscan frontier—I mean the Acqua Buja, and that on the Monte de Fo. The merit of *discovery* was assigned to Sir H. Davy, though he simply alludes to phenomena that had been already well known; indeed, Ferber in 1765 distinctly refers to, and describes, them. The Acqua Buja seems to be in a state of ebullition from the escape of carburetted hydrogen, which may be set on fire by the torch, producing a yellowish flame. The Monte de Fo is composed of a kind of magnesian limestone; and, from its acclivity, gas incessantly issues, and continues in a state of ignition. When long continued draught prevails, the flame is not more than a few *inches* high; but, during rainy weather or snow, or on their approach, as *many feet* in altitude. I have examined the phenomenon under both circumstances, and found it tolerably pure carburetted hydrogen, with an admixture of nitrogen and carbonic acid gas. That it issues from a bed of coal, I cannot doubt; wells, similar to the Acqua Buja, formerly existed in this country—as at Wigan, in Lancashire, and at Broseley, in Staffordshire—both coal districts.—J. Murray: *Portland-place, Hull, Sept.* 23.

ON GAS METERS—THE VARIOUS SYSTEMS CONSIDERED.

BY JAMES SHARP, OF WINCHESTER.

[Read before the British Association, at Southampton—communicated by the author.]

The use of coal gas for illumination involves so much capital in its production and distribution, that the method of supplying it to the public is of vast importance. The most equitable mode of doing so appears to be by measure—for, however high the price may be by contract, the gas companies, owing to extravagant and unfair burning, are not compensated; and the consequence is, that in those towns where the gas is supplied, partly by contract, and partly by measure, those who burn by the latter method are charged a higher price than they otherwise would be, in order to meet the loss thus sustained. Some idea may be formed of the inefficiency of contracts, when it is stated that the orifices of burners are frequently so enlarged, that from 50 to 100 per cent more gas is consumed than is contracted for—thus the honest consumer, who burns his gas by measure, is made to pay for the waste of the contract burner. The position I take then is, that the only terms on which gas should be supplied is by measure It is, therefore, of importance both to the manufacturer and consumer, that the quantity burnt should be accurately measured; and, from the universal application of gas to domestic purposes, the subject is one of extreme interest. The object of this paper is to inquire into the construction of some of the meters now in use, and it is not my intention to make invidious distinctions; the first to be noticed is the wet meter, so called on account of water being employed in its action. This consists of a cylindrical case, within which revolves a shorter cylinder or drum, divided into four compartments. The gas, as it enters some one of them, forces that division to rise, and, consequently, the whole cylinder to turn round. A pivot and cog-wheel are attached to the inner cylinder, which will turn with it, and count its revolutions. In one of those as much gas must pass through as will fill the space of its four compartments over the water line—the capacity of these being known, the quantity of gas will be known also; and it becomes easy to attach a piece of clockwork to the machine, so adjusted as to point out on a dial the number of cubic feet which have passed through. About two-thirds of the cylinder or drum revolves in water, and the gas enters above the water by an elbow tube, which enters at the axis, and terminates immediately above the surface of the water. As the gas enters, and exerts a pressure against the partition, it causes the cylinder to revolve. This brief explanation of the construction of the original meter I consider sufficient for the present purpose. The objections to this meter consist in the want of a proper adjustment of the surface of the water, an undue quantity of which reduces the capacity of the measuring compartment. In the meters made by Botton, Edge, Milne, and some others, this is obviated, by having an open tube or waste water pipe, leading from the proper surface of the water downwards, into a close cistern or waste water box. There are other objections which create some inconvenience, two of which I will notice—first, the congelation of the water, which stops the supply of gas to the burners; second, its evaporation at high temperature, which alters the water line, and then the meter registers against the company. These are the principal defects of the original meter—to remedy which a number of attempts have been made by ingenious inventors, to produce a meter to work without water. I shall not particularise each meter, but speak of them generally, and inquire how far the difficulties are met by the adoption of the dry meter. The material of which the measuring chamber of the dry meter is formed, consists of leather or oil silk, which is liable to several objections. The gas is admitted alternately by valves into compartments on either side of the partition; the pressure of gas occasions the partition to move forward; and, as it distends, it forces the gas out of that compartment, and the gas so expressed is in quantity to the sweep of the partition. As the diaphragm swells out, it pushes before it a metal rod or lever connected by a shaft with valves: by means of a combination of levers and cranks, with a worm or screw, a circular motion is given, which is transmitted to the registering wheels. It is a very elegant and ingenious method of measuring gas, resembling in action the diaphragm of the lungs. There are now several dry meters in use, their construction is very similar. The objections to this meter, as it is at present constructed, are very great, and, in my opinion, fatal to its use. The complication of cranks and valves is a great obstacle; the latter are formed by flat surfaces of metal—and, whether sliding or rotatory, are very liable to derangement; for if a particle of dust, scarcely perceptible to the eye, be lodged between the valve and valve seat, they become unsound, and the registration of the meter is incorrect. Nothing can be more destructive to the materials of the dry meter than the composition which is condensed on the valves and diaphragm, as it is impregnated with the products from the distillation of coal—the action of which, upon its delicate machinery, must shortly render it very imperfect. The charge brought against the wet meter, of its being subject to variable registration from the difference of the water line, is, as I have shown, obviated by the inventions of Botton, Edge, Milne, and others; and with regard to the freezing of the wet meter, I consider the objection applicable to the dry meter, as there will generally be sufficient moisture on the valves in cold situations to form a small portion of ice. It is well known, that gas cocks and valves freeze under similar circumstances; and it may readily be conceived that those of the dry meter will be liable to the same derangement. No one can be more anxious than myself, that an efficient dry meter may be discovered—it will be one of the greatest boons ever conferred on proprietors of gas-works, as well as on consumers of gas: although great ingenuity has been exercised to bring it to perfection, it cannot be concealed that these meters are, as the water meter one was, in its infancy. To what perfection they may hereafter be brought, no one can foretell; but at present there is nothing to justify their preference to the wet meter. We do not expect to find it a perfect mathematical measure, calculated to the niceties of chemical manipulation—but we have a just measure. Meters are now made which will measure the gas passed through them, with as much accuracy as ordinary balances will weigh and measure the articles we receive for our household use. The public would have confidence in the gas meter, if they understood more about its construction; and persons connected with gas-works would find it much to their advantage, if they were to instruct those of their customers, who were willing to understand the principles upon which it measured the gas. Indeed, I would recommend a department connected with every large gas establishment, for the purpose of testing all meters, and the consumer should be invited to witness the operation, which would allay suspicion. In my opinion, it is due to persons using gas that means should be taken to convince them of the honesty of the measure by which they are supplied.—In the model room, Mr. Sharp exhibited an improved pressure gauge for the use of gas-works; also, an entirely new burner, exceeding in brilliancy the Bude light.

Carbonic Oxide Gas for Illumination and Heating.—Mr. J. Constable, of London, has obtained a patent for a method of manufacturing carbonic oxide gas from anthracite, by subjecting it, when in a state of combustion, to currents of air and steam; also, in employing pearl-ash with the anthracite, for the purpose of obtaining other saleable products, and thus reducing the cost of making the gas. The furnace employed very much resembles an ordinary blast-furnace, having a pipe near the boshes for the admission of steam, and another for carrying off the gases produced; to prevent the coal dust from being carried off with the gas, the latter is made to pass through several finely perforated metal surfaces to intercept it; air is introduced into the furnace at a pressure of 3 ozs. to 4 ozs. per inch, and steam is admitted, previously heated up to 600° Fahrenheit. The anthracite is charged into the furnace through a hopper at the summit. By adding 6 parts by weight of pearlash to 94 parts of anthracite, saleable products may be obtained from the ashes—the process is carried on in the same manner as for gas only, and when the lower part of the furnace is filled with ashes they are withdrawn; they are highly valuable as manure: cyanide of potassium may be extracted from them by repeated washings, and evaporating the solution; or, by allowing steam to flow through them, ammoniacal products are obtained. When using the carbonic oxide so obtained, for the purposes of illumination, the patentee first passes it through one of the hydro carbons, such as oil of turpentine, in order to increase its brilliancy; and when, for heating purposes, he mixes it with atmospheric air supplied from another gasometer, so that the air and gas may be supplied to the burner in equal quantities, at the same pressure, and be mixed near the burner.

A labourer in Ennis has discovered a method of blasting rills, at the distance of one mile, in the space of a minute.

STEAM COAL—WITHOUT SMOKE, as per experiments made at her Majesty's Dockyard, Woolwich.

CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.)

OFFICES—2, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 18, 1846.

NOTICE TO THE MANAGERS OF MINING COMPANIES, SMELTING WORKS, &c.

Mr. MITCHELL (late Mitchell and Field) begs to announce, that ASSAYS and ANALYSES of all descriptions of ORES, MINERALS, and FURNACE PRODUCTS, are conducted at his LABORATORY, 23, HAWLEY-ROAD, KENTISH TOWN, to which direction all communications are to be addressed.

N.B.—Instruction in all branches of assaying and mineral analysis as usual.

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their

IMPROVED ELASTIC METALLIC PISTONS.

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is

1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

TO ENGINEERS, BOILER AND TANK MAKERS, IRON SHIPBUILDERS, RAILWAY CONTRACTORS AND COMPANIES, &c.

ALEX. REID, 70, LOWER THAMES-STREET, LONDON,

begs to inform the above parties, that he can SUPPLY BOLTS AND NUTS, BOILER AND TANK RIVETS, PINS AND COTTERS, RAILWAY SPIKES, BOLTS AND FASTENINGS, WROUGHT IRON-WORK AND CASTINGS, of every description, of best quality, and unequalled workmanship, at lowest possible prices. —Any quantity supplied, at a few days notice, from the manufactory at Smethwick, near Birmingham.—N.B. CONTRACTS TAKEN, and PRICES given for any DESCRIPTION OF IRON-WORK.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES FOR STEAM-BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, *CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE,* MANUFACTURE TUBES under an exclusive license from Mr. Richard Prosser, the patentee. These tubes are now very extensively used in the boilers of marine and locomotive steam-engines in England and on the continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and warranted not to open in the weld. They may be fixed in the boilers without forules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham.

LONDON WAREHOUSE, 68, *UPPER THAMES-STREET.*

Now ready, in 1 vol., 8vo., cloth, with maps, plates, and woodcuts,

SOUTH AUSTRALIA AND ITS MINES,

WITH AN ACCOUNT OF CAPTAIN GREY'S GOVERNMENT. By FRANCIS DUTTON, Esq.

T. and W. Boone, publishers, 29, New Bond-street, London; Oliver and Boyd, Edinburgh; Cumming and Co., Dublin—of whom may also be had,

EYRE'S DISCOVERIES IN CENTRAL AUSTRALIA, Two vols., 8vo., with map, and numerous plates.

Just published,

AN EXPOSITION OF THE DANGERS AND DEFICIENCIES OF THE PRESENT SYSTEM OF RAILWAY CONSTRUCTION, with SUGGESTIONS FOR ITS IMPROVEMENT. By C. H. GREENHOW.

John Weale, 59, High Holborn.

Models, illustrating the principle, may be seen at No. 3, Lothbury.

Just published, price 1s.,

THE PATENT JOURNAL, Monthly Part—containing an

immense mass of popular and scientific information, illustrated with 40 beautiful Engravings—Accounts, with drawings, of Thirty New Patents and Registrations—forming the cheapest and best scientific and popular work now published. The *Patent Journal* is also published weekly, price 3d.—"The best and cheapest periodical it was ever our good fortune to review."—*Birmingham Journal.* "The woodcuts are capital, and worth double the money."—*Sun.* "No patent inventions pass unnoticed in the *Patent Journal*, which is indeed a rare feast for the intellectual and scientific man."—*Glasgow Review.* To be had by order of all booksellers, or sent free (by post), on receipt of 20 stamps.

BAGMILL TONTINE.—PROSPECTUS of a TONTINE,

for the DISPOSAL of a valuable FREEHOLD FARM, in the fertile parish of ST. STEPHENS, by Saltash, CORNWALL, now in the possession of the owner.

Amount to be subscribed, or paid, for the purchase of the farm, and the defrayment of the expenses of the formation of the Tontine, £4000.

In 200 shares, of £20 each.—Deposit £5 per share.

TRUSTEES.

WILLIAM HENRY PRANCE, Esq., of Plymouth.
GEORGE B. MURLY, Esq., of Langport.

BANKERS—The Devon and Cornwall Banking Co., Plymouth, and its several branches.

SOLICITORS.

Mr. H. A. Olney, Saltash; Messrs. Woolcombe, Square, Stephens, & Prance, Plymouth.

DESCRIPTION OF THE PROPERTY.

The estate, or farm, called Bagmill, comprised in the above Tontine, is situate on the banks of the navigable part of the river Notter, in the said parish of St. Stephens; distant about one mile from the proposed Cornwall Railway, which is intended to pass the river Tamar, by a bridge at Saltash, already authorised by Act of Parliament. It consists of a dwelling-house, garden, barn, and other suitable farm buildings, and contains above 48 acres of arable, meadow, orchard, and pasture land. It is watered by several never failing streams, which, by judicious management, and a small outlay, might be so diverted as to irrigate, if required, nearly half the estate, and might be applied, if necessary, to the working of powerful machinery. The estate was recently let on lease, at the annual rent of £100; but is now in the hands of the proprietor.

PLAN OF THE TONTINE.

Each subscriber shall have the option of naming either himself or herself, or any other person whose age next birthday shall not be less than 70 years, but shall not be at liberty to appoint any nominee who has been previously named.

The surplus rents after payment of the current expenses of the management of the Tontine, to be divided annually on the 25th day of March, among those subscribers or proprietors whose nominees were living on the 25th day of December preceding.

Each party, on subscribing for a share or shares, is to pay a deposit of £5 per share to the banking company above named, to the credit of "The Bagmill Tontine," and shall, before the expiration of 30 days after such payment, deliver to the solicitors a written nomination of a life as his or her nominee, in respect of each such share, whose age on the next birthday shall be at least 70 years, accompanied by a certificate of baptism of such nominee, or by such statutory declaration, or other evidence of the age of such nominee, as the solicitors shall reasonably require; and shall pay the residue of his or her subscription on the 25th day of December next.

That, if any of the nominees shall die before the whole of the shares shall have been taken, either by subscribers, or by the owner of the farm, as mentioned below, the party nominating such life may substitute another, whose age on the next birthday shall not be less than 70 years, as aforesaid.

Upon the death of all the nominees, save one, the Tontine shall be determined, and the whole of the said farm shall become the absolute property of the subscriber or proprietor, owing a share or shares, as the case may be, upon the life of the last surviving nominee; unless it shall happen, that one person shall at any time be entitled to the whole of the shares, in which case the trustees shall convey the property absolutely to such person; but that it shall be competent for all the proprietors for the time being, to determine the Tontine at any earlier period.

The Tontine is to be completed by the 25th day of December, 1846, or sooner, if filled up, when the property shall, with all convenient speed, be vested in the names of the two trustees. And in case any subscriber shall either neglect to appoint a nominee, or fail to pay the remainder of his or her subscription money, then his or her share or shares, with the deposit paid thereon, shall be absolutely forfeited to the owner of the farm, as if not subscribed for, and in this respect time shall be considered as the essence of the contract. And, thereupon, the whole of the subscribed sum shall be paid over to the owner of the farm, subject to the payment thereout, by him, of all the costs and expenses of, or incident to, the formation of the Tontine, and preparation and execution of the deeds for effecting the same.

The farm is subject to a charge during the life of a person now aged 83, or thereabouts, against which the owner will enter into a covenant of indemnity with the trustees.

The trustees shall be always two in number; and, in case of a vacancy, it shall be filled up on the nomination of the majority of the votes of the proprietors, personally present at a meeting convened for such purpose. Each proprietor to have one vote in respect of every share held by him or her.

If, on the 25th day of December next, any shares shall remain unsold, the same may be taken by the owner of the farm, on his nominating such lives in respect thereof as aforesaid, if he should think proper so to do; but if he shall decline to take the same, then, unless the whole thereof shall be disposed of before the 25th day of March following, he shall return the deposits to the subscribers without any deduction.

A list of the subscribers, containing their names and residence—also the name, age, and residence of the nominees—will be furnished to each subscriber.

The necessary deeds shall be prepared by the solicitors to the Tontine; and the same shall be approved by counsel to be nominated by them.

Applications for shares, prospectuses, and plans, may be made to Mr. H. A. Olney, solicitor, Saltash; Messrs. Fuller and Saltwell, 12, Carlton Chambers, Regent-street, London; Messrs. Woolcombe, Square, Stephens, and Prance, solicitors, Plymouth; G.B. Murly, Esq., solicitor, Langport, Somerset, and to the Share Brokers of Plymouth.

FORM OF APPLICATION.

TO THE TRUSTEES OF THE BAGMILL TONTINE.

I request you will allot me shares, of £20 each, in the Bagmill Tontine, and I will accept the same, or any less number allotted to me, and sign the Deed of Settlement, and pay the deposit and remainder of the purchase-money thereon, when required.

Name in full .....
Address and profession, or business ..
Date .....
Name and address of referee .....

NISTER DALE IRON COMPANY.—TENDERS FOR LOANS.

—The WORKS of this company are now in full OPERATION at NISTER DALE, near Hachenburg, in GERMANY, and at SWINTON, near Rotherham, YORKSHIRE; and the directors, being empowered by the Deed of Settlement to raise additional capital for extension of the works, give Notice, that they are prepared to RECEIVE TENDERS for LOANS, on DEBENTURES, at £5 per cent. interest.—The holders of the debentures will have the option of converting the same into shares, at any time within three years, and the interest will be paid half-yearly, at the company's offices.

For further particulars, apply at the offices of the company, No. 10, Old Jewry Chambers, London; or to the company's solicitor, Mr. George Hume, No. 10, Great James-street, Bedford-row, London. By order of the board,

HENRY SCALE, Managing Director.
Sept. 23, 1846. F. W. EMERSON, Clerk.

CALEDONIAN EXTENSION RAILWAY.—Notice is

hereby given, that, in accordance with a RESOLUTION, passed at a MEETING of the shareholders of this company, held to-day, at Gibb's Royal Hotel, Prince's-street, Edinburgh, the sum of ONE POUND FIFTEEN SHILLINGS per share will be RETURNED to the HOLDERS of SCRIP, on and after the 15th day of October next; and the holders of scrip are requested to deliver, or transmit, their scrip certificates to the secretary, at 122, Prince's-street, Edinburgh, four days prior to the day of payment—each of such certificates to be indorsed with the names and addresses of the holders of such scrip.—Bank cheques will be delivered, or, if requested, transmitted by post, to the holders of the scrip certificates, four days after their receipt.

By order of the board. JOHN MARR, Secretary.
122, Prince's-street, Edinburgh, Sept. 23, 1846.

CAMERON'S COALBROOK STEAM COAL, WITHOUT SMOKE.

—The numerous applicants for this superior STEAM COAL, which EMITS NO SMOKE, are informed, that the NEXT CARGO for LONDON is DAILY EXPECTED to arrive, and will be delivered in the order of the applications, which may be made at the company's offices here. A. C. HOWDEN, Secretary.
2, Moorgate-street, London, Sept. 22, 1846.

CORNWALL RAILWAY.—Notice is hereby given, that the

Act, authorising the construction of this railway, having received the Royal Assent, all persons holding scrip certificates for shares in this company, are requested to transmit the same for registration either to the Secretary, at his office, Truro, or to Wm. Wood, Esq., 449, West Strand, London, on or before Saturday, the 19th of September next, with their names, professions, and residences, distinctly written, in order that the same may be correctly entered in the register of the company. An official receipt will be given for the scrip, which receipt will be afterwards exchanged for the sealed certificates, with as little delay as the preparation of the same may require. Due notice will be given when the sealed certificates will be ready for delivery.

Shares, in respect of which no application for registry shall be made on or before the above date, will be registered in the name of the original subscriber, after which no share can be passed, otherwise than by a formal transfer under the provisions of the Act.

Forms of letters claiming to be registered, may be had at the secretary's office, Truro, or at 449, West Strand, London.

And notice is hereby further given, that interest after the rate of £4 per cent. per annum will be allowed on the deposits paid upon all registered shares from the following times—viz.: from the 1st of December, 1844, on the deposits of £3 per share on £50 shares, and from the 1st of November 1845, on the deposits of £2 per share on £50 shares, and of £2 10s. on £25 shares. The interest will be made up to the 29th of September next, and the interest warrants will be issued soon after the completion of the registration

By order of the board,
Truro, August 18, 1846. P. P. SMITH, Secretary pro tem.

EDINBURGH & NORTHERN RAILWAY.—ESTIMATES

FOR RAILWAY CHAIRS.—The directors of this company are ready to RECEIVE TENDERS for about ONE THOUSAND TONS of CAST-IRON RAILWAY CHAIRS.

The specifications may be seen at this office until the 29th current; and proposals, marked "Tender for Cast-Iron Chairs," will be received until Wednesday, the 30th current, at Twelve o'clock noon. By order, HENRY LEES, Secretary.
18, St. Andrew-square, Edinburgh, Sept. 16, 1846.

ESSEX AND SUFFOLK RAILWAY COMPANY.—The

trustees appointed for winding up the affairs of this company, beg to give Notice, that the OFFICES, 12, Nicholas-lane, are NOW CLOSED; and that future communications are to be addressed (by letter) to the secretary, at No. 29, Coleman-street, London.
Dated Sept. 25, 1846. By order, ROBERT MAPLETOFT, Sec.

WELSH MIDLAND AND BRECON AND MERTHYR RAILWAY.—Notice is hereby given, that PAYMENT of the FIRST INSTALMENT of FIFTEEN SHILLINGS per share on Welsh Midland shares, and of SEVEN SHILLINGS and SIXPENCE per share on Brecon and Merthyr shares, is being daily made at the offices of the company, No. 17, Park-street, Westminster, between the hours of Eleven and Three.

And Notice is hereby further given, that, from and after the 3d day of October next, the directors will attend on Tuesdays and Fridays only, to continue payments, between the same hours, until further notice. By order,
Sept. 24, 1846. THOS. PRITCHARD, Secretary.

PROSPECTUS OF A JOINT-STOCK COMPANY FOR THE MANUFACTURE OF MALLEABLE IRON, TO BE CALLED THE

EAST OF SCOTLAND MALLEABLE IRON COMPANY.

Capital £100,000, divided into 10,000 shares, of £10 each.

£5 per share to be called up in the first instance, by four instalments, at intervals of at least three months.

Five Shillings per Share to be deposited when the Shares are allocated.

INTERIM COMMITTEE.

JOHN SLIGO, Esq., of Carnyle
ROBERT KERR, Esq., of Gairney House
JOHN RUSSELL, Esq., one of the Bailies of Dunfermline
DAVID BIRRELL, Esq., one of the Bailies of Dunfermline
ALEXANDER ALISON, Esq., of Blair Castle
GEORGE BIRRELL, Esq., manufacturer, Dunfermline
ANDREW BUCHANAN, Esq., of Mount Vernon
ADAM JOHNSTON, Esq., writer, Dunfermline
JOHN SPITTAL, Esq., Provost of Inverkeithing
WILLIAM FINLAYSON, Esq., merchant, Dunfermline
—— M'KENZIE, Esq., of Devon Iron-Works
HENRY RUSSELL, Esq., iron merchant, Dunfermline
ROBERT BONNAR, Esq., builder, Dunfermline
JOHN SHAW SOUTAR, Esq., writer, Dunfermline
JOHN BONNAR, Esq., Dunfermline
THOMAS IRELAND, Esq., iron merchant, Dunfermline
JOHN DEWAR, Esq., manufacturer, Dunfermline
WALTER BROWN, Esq., of Wellwood Coal-Works
ROBERT SANDERS, Esq., Dunfermline
JOHN SAMPSON, Esq., merchant, Dunfermline
ANDREW CHRISTIE, Esq., of Townhill and Appin Coal-Works
FRANCIS GRIER, Esq., of Fordel Coal-Works
ADAM BEGG, Esq., of Lumfinnan Coal-Works
JOHN HENDERSON, Esq., of Lochgelly Coal-Works
JAMES M'LAREN, Esq., of Cuttlehill Coal-Works
THOMAS RUSSELL, Esq., engineer, Kirkaldy
ROBERT CAMPBELL, Esq., founder, Dunfermline
THOMAS FLINT, Esq., iron merchant, Dunfermline.

Scotland, from the extensive and increasing production within it of pig-iron, at a cheaper cost than in any other country, is obviously the locality best suited for the manufacture of malleable iron. And, when it is considered that at present there are only four malleable iron-works in operation (besides two in the course of erection), it will be apparent that there is ample scope for the increase of such works.

The present produce of pig-iron in Scotland is about 10,000 tons per week, of which, from the mere want of the necessary works, only about 150 tons (little more than one-seventh part) are manufactured there; while, in England, the proportion of manufactured iron is estimated at not less than three-fourths. A large portion of Scotch pig-iron, therefore, continues to be sent annually for manufacture to England.

That this branch of the iron trade will continue to be a peculiarly profitable one cannot be doubted, as there are not only the numerous railways in this country, but also railways all over the world, to be supplied with rails. Besides, an increased consumpt of other descriptions of malleable iron may be relied on.

As to the best site for the proposed works, it is believed that the town of Dunfermline will be found to combine more advantages for such an undertaking than any other place that can be named. Among other advantages, the following may be noticed:—

1. The plentiful supply and cheapness of excellent coal in the immediate vicinity of the town.

2. The supply of pig-iron of the best description for the purpose, from the Forth, Kinniel, and Devon Iron-Works, all within a few miles of Dunfermline.

3. The abundance of convenient dwellings for the workmen within the town, which will save the company the heavy expense of erecting a large number of workmen's houses, to which similar works are usually subjected.

4. Connection by railway with the seaport of Charleston, for the shipment of the iron.

5. Dunfermline will soon become a central point for railways, branching off in all directions; and thus afford a cheap conveyance for the produce of the intended works to all parts of the country.

A report has been obtained from an eminent engineer, intimately conversant with the trade (he having himself superintended the erection of such works both in Scotland and England); who estimates that, with less than half of the above capital, the company will be enabled to complete their works to an extent capable of turning out 300 tons of rails, and other malleable iron, weekly.

The report, likewise, contains an estimate of the profits upon the data of the present rate of wages, price of iron, coal, and other materials at Dunfermline; from which it appears that the profits will yield a return of 17 or 18 per cent. on the paid-up capital.

The report can be seen in the hands of the interim secretary, who will show it to intending subscribers. When two-thirds of the number of shares are taken up, the company will be considered as formed, and a meeting of the shareholders will be called for the appointment of directors, to whom will be entrusted the selection of a suitable site for the works, and the general management of the affairs of the company.

It is expected that the works will be in operation in nine months hence, and till then interest will be allowed upon the paid-up capital at the rate of 5 per. cent per annum.

Applications for shares to be made in the subjoined form, addressed to Mr. James Smith Ronaldson, writer, Dunfermline, the interim secretary; or to the following sharebrokers—viz.: Messrs. Dowling and Howden, and Messrs. Robert and Thomas Allan, Edinburgh; Messrs. Buchanan and Aitken, and Mr. James Watson, Glasgow; Mr. John Power, 1, Copthall Chambers, London; Messrs. George Tinley and Sons, Liverpool; Messrs. Dinwoodie and M'Lean, and Mr. Robert M'Ewen, Manchester; Mr. John Sturrock, Dundee; and Mr. J. A. Gloag, Perth.—Dunfermline, September 11, 1846.

To Mr. JAMES SMITH RONALDSON, Interim Secretary,
East of Scotland Malleable Iron Company, Dunfermline.

SIR,—Please insert my name as a subscriber for shares, of £10 each, in the East of Scotland Malleable Iron Company, or any less number of shares that the interim committee may allot to me; and I agree to sign the Deed of Copartnery, to be prepared at sight of the interim committee, on being required so to do.

I am, Sir, your most obedient servant,

Full name and designation .....
Signature .....
Reference .....
Date .....

IMPORTANT TO RAILWAY COMPANIES.

PATENT KAMPTULICON COMPANY, 18, CORNHILL.

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